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ETHICAL INTUITIONISM—A RESTATEMENT

In this paper[1] I shall attempt a tentative restatement of the intuitionist position in ethics, one which I believe can escape the main criticisms which have been levelled against contemporary Intuitionism. These criticisms can be summed up in two basic charges : (1) Intuitionism provides no satisfactory criterion by which to judge the objective validity of the alleged intuitive insights upon which it is based, and (2) it embraces an absolutism which, besides blocking moral progress and stifling ethical inquiry, is essentially dogmatic.

The views of most contemporary intuitionists, it seems to me, are vulnerable to both of these charges. In support of the first criticism—that Intuitionism lacks a criterion of objectivity for the intuitions upon which it is based—it can be argued with considerable force that, while the intuitionists are all objectivists *in intent*, nevertheless they can *in fact* provide nothing but a subjective basis for their moral pronouncements. The position which they hold is this : Men can and do have direct intuitive insights into objectively valid moral truths and these insights must provide the ultimate bases for all ethical theories. The difficulty with such a view becomes apparent when we ask : How can we determine whether or not an alleged moral intuition is objectively valid ? How can we be sure that what we assume to be insight into moral truth isn't rather personal prejudice, camouflaged desire, or some other subjective feeling parading under false colours ? An illustration of this danger of subjectivism is provided by G. E. Moore

[1] A shorter version of this paper was read before the Eastern Division of the American Philosophical Association at Boston University on 29 December, 1955.

in his *Principia Ethica* in which he argues that moral intuition and visual perception, although they differ from each other both in the type of apprehension involved and in the nature of the qualities apprehended, are nevertheless analogous in that in both the observer directly apprehends an objective quality; the value quality goodness in, say, an aesthetic experience and the sensuous quality yellow in, say, an orange.[2] Without entering into a discussion of Moore's epistemological realism, the point nevertheless remains pertinent that in certain types of jaundice the sufferer sees everything as yellow.

Many of the intuitionists, recognizing that the appeal to the alleged moral insight of the individual person as a basis for ethical theory invites subjectivism, have attempted to avoid the difficulty by seeking refuge in numbers, selecting some *group* of people, rather than any individual person, to serve as the standard for objective moral judgment. This shift, though, has raised another problem which, as far as I know, they have never successfully solved; namely, just what group should be selected for this purpose? The perplexities into which they have been led are well illustrated by W. D. Ross who in one chapter of his book *The Right and the Good* appeals variously to the moral convictions of "the plain man",[3] "thoughtful and well-educated people"[4] and "the best people"[5] in support of his theory. Since the persons who belong to any one of these groups do not always belong to the others and since, furthermore, the moral convictions held in any one group (*e.g.*, that of plain men) are not always in harmony with those held in another (*e.g.*, that of thoughtful and well-educated people), Ross is faced with the following dilemma: When the moral convictions held by the members of one group to which he appeals conflict with those held by the members of another, how does he choose between the two? No matter which group he turns to, Ross falls victim to parochialism, a type of subjectivism as unpalatable as the individualism which he is attempting to avoid. Although Ross tries hard to avoid parochialism, the same can hardly be said of all the intuitionists. Hastings Rashdall, for example, seems to have found a sufficient basis for his views in the moral behaviour of the "well-brought-up Englishman".[6] But, then, why not the well-brought-up Athenian, or American, or Bantu?

The second basic criticism made against Intuitionism is that it leads to dogmatic absolutism in ethics. That the intuitionists tend towards absolutism is amply evidenced by the following quotations taken from Ross: "The main moral convictions of the plain man seem to me to be, not opinions which it is for philosophy to prove or disprove, but knowledge from the

[2]See G. E. Moore, *Principia Ethica* (Cambridge, 1903), chap. I.

[3]W. D. Ross, *The Right and the Good* (Oxford, 1930), p. 21n.

[4]*Ibid.*, p. 41.

[5]*Ibid.*

[6]H. Rashdall, *The Theory of Good and Evil.* 2d. ed. (Oxford, 1924), I, 192.

start . . .".[7] Again, " I would go so far as to say that the existence of an obligation arising from the making of a promise is so axiomatic that no moral universe can be imagined in which it would not exist ".[8] To one holding such a position, for a moralist to call accepted codes of conduct into question would seem to be an impertinence ; his proper function is to defend and conserve the moral attitude held by his community, not to criticize them. Intellectually reactionary as this view may be, nevertheless it cannot (I believe) be rejected on these grounds alone ; for, *if* the " insights " which the intuitionists defend really did embody absolute moral truths, their proclamation and defence as such would be quite justified. However, the intuitionists have not succeeded in providing a satisfactory criterion by which to distinguish valid moral insights from personal prejudices or local customs based simply upon habitual acceptance. Until such a criterion is forthcoming, the absolutism which they embrace lacks a rational warrant. Without such a warrant it degenerates into dogmatism. And it is because Intuitionism is dogmatic, rather than simply absolutistic, that it must be rejected.

Such, very briefly, are the major charges made against contemporary Intuitionism. The remainder of the paper will be devoted to an attempt to develop in outline form an intuitionistic type of theory which does not succumb—or at least not so readily—to these charges.

In the theory which I wish to propose, there are four *essential* types of moral judgment, a moral judgment being termed essential either if it states the action which, in a specific situation, is morally obligatory upon a given person or if it is theoretically necessary to the determination of that action. The types of essential moral judgment are these : (*a*) *Imperatives of action* —*e.g.*, It is my duty to fulfil the promise which I have made to my friend ; I ought to come to the aid of that person whom I see to be in obvious distress ; (*b*) *Specific judgments of value*—In the situation in which I find myself, a certain action, *e.g.*, keeping a promise I have made or relieving a fellow human in distress, is the *best* action for me to perform ; (*c*) *General judgments of intrinsic value*—*e.g.*, Pleasure is better than pain ; a life of justice has an intrinsic worth ; and (*d*) The *moral imperative*—Always maximize good. These four types of judgment represent the necessary conditions in terms of which any moral action must be justified or condemned. To say this is not to imply, of course, that everyone who makes a moral decision and acts upon it must be aware of all these judgments ; indeed in many cases the person involved is probably aware only of a specific imperative of action ; he acts as he does because he feels, in a way which he does not there attempt to analyse, that he ought to act that way in the situation in which he finds himself. Nevertheless, if the theory is correct, to provide a satisfactory *theoretical* justification in any moral action we must appeal to

[7] Ross, *op. cit.*, p. 21n.

[8] W. D. Ross, *Foundations of Ethics* (Oxford, 1939), p. 77.

these four types of judgment. Moreover, besides being the necessary conditions for the explanation of moral action, these four types of judgment are the sufficient conditions as well. All other types of moral judgment can, through the employment of logical methods alone, be explained in terms of them.

In providing the necessary and sufficient conditions for the theoretical explanation of moral action, each of these types of judgment performs a special function. The four taken together form a moral syllogism (or rather sorites) in which the imperative of action stands as conclusion, the moral imperative stands as major premise, and the judgments of value, both general and specific, stand as minor premises carrying the argument from major premise to conclusion. The following, an illustration of such a moral argument, may perhaps make this point clearer :

> As a moral being I am always obliged to act in the way which I believe will make the greatest possible contribution of value to the world—that is, I ought always to maximize good. (The moral imperative.)
>
> X, a state of affairs which I believe can be brought into existence by appropriate action on my part in the situation in which I find myself, is intrinsically good. (General judgment of intrinsic value.) Act A, because it embodies or will produce state of affairs X, is the best act for me to perform in this situation. (Specific judgment of value.)
>
> Therefore,
> I ought, in the situation in which I find myself, to perform act A. (Imperative of action.)

In what ways is this theory similar to those of the intuitionists and in what ways does it differ from them ? To answer this question, and at the same time to explain the position in greater detail, let us examine it point by point. As I have already mentioned, each of the four types of judgment which it maintains to be morally essential performs a distinct function in the explanation of the moral situation. Moreover, these functions are of unequal importance from the standpoint of ethical theory ; that is to say, the contributions which some of the judgments make to the explanation of the moral situation are more important than those made by others. From a theoretical (though, of course, obviously not from a practical) point of view the least important of the four types of judgment is the imperative of action. For it represents simply a conclusion deduced from the moral imperative and judgments of value, general and specific. Assuming the moral imperative and having reached a decision as to the action which it is best for him to perform in the situation in which he finds himself, a person can arrive at the imperative of action which should dictate his con-

duct simply through the employment of deductive logic. No specifically moral reasoning is here required and certainly no appeal to "intuition". On this point my analysis is directly contrary to the view of at least one intuitionist, H. A. Prichard, who maintains that imperatives of action, rather than being deductively reached, represent ultimate moral judgments intuitively grasped through an act of distinctive moral thinking.

> "But, given that by a process which is, of course, merely a process of general and not of moral thinking, we come to recognize that the proposed act is one by which we shall originate A in a relation B, then we appreciate the obligation immediately or directly, the appreciation being an activity of *moral* thinking. We recognize, for instance, that this performance of a service to X, who has done us a service, just in virtue of its being the performance of a service to one who has rendered a service to the would-be agent, ought to be done by us. This apprehension is immediate, in precisely the sense in which a mathematical apprehension is immediate. . . ."[9]

Ascending the scale of theoretical importance, the next of the four essential types of moral judgment is the specific judgment of value. Unlike imperatives of action, these judgments cannot be reached through a process of logical deduction; rather they demand a distinctive type of moral discrimination for their apprehension. There is no strictly logical method by which a person, feeling himself obliged to act in a complex situation in which he discerns numerous value elements present, can balance these elements against each other and reach a conclusion as to which of the various alternative acts open to him represents the *best* one, on the whole, for him to perform. Here Aristotle's quality of 'practical wisdom' must be brought into play and the man most likely to decide the issue rightly is one who has the ability to weigh carefully the value possessed by different and often quite heterogeneous states of affairs as well as to calculate accurately the probable consequences indefinitely into the future of the various alternative acts he might perform. But, even though a person combines the best of intentions with a cultivated ability to calculate consequences and to make nice value distinctions, still his decision regarding the act best for him to perform in any given moral situation will always be subject to error.

Although of crucial importance to practical morality, both imperatives of action and specific judgments of value are, theoretically speaking, subordinate and derivative. With general judgments of intrinsic value, however, we reach propositions which are ethically ultimate. While furnishing the bases upon which we justify other moral judgments, they cannot themselves be justified through an appeal to anything more basic than they. How then, the question arises, can we justify them? On what grounds do we hold them to be true? The answer is that we consider them to be self-

[9] H. A. Prichard, "Does Moral Philosophy Rest on a Mistake?" in *Moral Obligation* (Oxford, 1949), p. 8. For another statement of this view, see E. F. Carritt, *The Theory of Morals* (Oxford, 1928), pp. 71-75.

justifying; we believe that we "apprehend their truth intuitively". When we judge, for example, that a life of justice has an intrinsic worth or that pleasure is better than pain, we do so because, on our understanding of the meanings of the terms involved, it appears directly evident to us that the propositions affirmed are true. We have, and feel that we need, no further justification for their affirmations.

With this analysis of general judgments of intrinsic value all of the intuitionists would, I am sure, agree. Indeed, they would go even further and argue that such propositions are self-evident—necessarily true and capable of direct apprehension as such. At this point, however, I have grave misgivings; for it seems to me that the intuitionists here push their case too far. In identifying the intuitively apprehended with the self-evident they make all intuitive judgments necessarily true, thus ruling out the possibility of intuitive error. But it seems to me that there are many judgments in ethics which men have accepted on the basis of intuitive insight which are, nevertheless, false. A case in point is provided by the hedonism of Henry Sidgwick. According to Sidwick the proposition 'Pleasure alone is intrinsically good' is intuitively apprehended as true. Sidgwick was certainly correct in calling this an ultimate, intuitive proposition, for it cannot be justified by an appeal to any proposition more basic than itself but must be accepted, if at all, simply on the basis of direct examination. Nevertheless, I suppose that most ethicists today would say that it is false. Here, though, an intuitionist might object, arguing that my example does not establish the existence of false intuitive propositions; for Sidgwick did not really *apprehend* his hedonistic axiom intuitively, he just thought that he did. Such an objection, while possibly valid verbally, actually admits the case. For, in order to deny the existence of false intuitions, it must draw a distinction between real and pseudo-intuitions, a distinction, however, which the concept of intuition itself, as understood and accepted by the intuitionists, will not support.

I might myself be accused of inconsistency on this point of intuition. For haven't I first argued that we apprehend the truth of general judgments of intrinsic value by direct intuition and then turned around and admitted that our intuitions may well be false? I have tried to avoid the appearance of inconsistency by the use of quotation marks and by refraining from ever making the flat statement that we do not intuitively apprehend general judgments of intrinsic value to be absolutely true. Although this may seem to be a small point, it marks a fundamental difference between the normal intuitionist view and the position here being developed. For, whatever their differences may be on other issues, the intuitionists unite in their defence of absolutism and finalism on the level of general judgments of intrinsic value, whereas I, on the other hand, although I agree that such judgments are ethically ultimate and hence must be intuitive in the sense of being accepted for true on the basis of direct inspection, nevertheless wish to maintain the position that, rather than being final and absolute,

they are *tentative* and hence open to revision, enrichment, and even later rejection. My main reason for differing from the intuitionists on this point, namely, that moral judgments held by some ethicists to be intuitively self-evident are judged by others to be false, has already been mentioned. The example given, of Sidgwick and the axiom of hedonism, furthermore, represents a relatively minor disagreement concerning self-evident moral truth. For the history of ethics is littered with propositions which in one time and place have been held to be so obviously self-evident that no reasonable person could withhold his assent to them and in another time and place have been rejected as just as obviously untrue. Because of its compromised record, therefore, I believe that we must approach the appeal to intuitive self-evidence in ethics with the utmost circumspection.

A closely related disagreement which I should have with the intuitionists concerns the manner in which they hold moral truths to be intuited. Mention was made early in the paper of Moore's analogy between our apprehension of goodness and our perception of yellow. A similar analysis is given by Ross, who bases all moral knowledge upon "crystal-clear intuitions".[10] If the intuitionsts do apprehend moral qualities with the same crystal clarity that they perceive colours, I should be willing to wager they will find few people outside of their ranks who share this ability. I, for one, certainly do not. Although I believe that I can apprehend an intrinsic goodness in, say, a life of justice, my apprehension of this has little in common with my perception of the blue in the sky on a clear summer day. The latter, besides being crystal-clear, is unmeditated, sensuous and almost effortless. The former has none of these qualities. Rather it comes as the fruition of a long and difficult effort to understand, appreciate and evaluate the almost infinite complexities of human life. On this point, it seems to me, the intuitionist position rests on a serious oversimplification; the data are vastly more complex than it makes them out to be.

Because they oversimplify their account of the way in which we apprehend intrinsic values, the intuitionists are led in turn to accept a moral outlook which is unduly narrow. For, if the apprehension of the goodness in a given state of affairs is analogous to the perception of yellow in an orange, then, if an intuitionist intuits a certain state of affairs to be good, he can assume that, with rare exceptions, any person anywhere, faced with a similar state of affairs, will intuit a like goodness in it. Thus he is relieved of the necessity of studying the evaluation made by men in other cultures and times to see if they actually do agree with his own. However, the fact of the matter, as amply evidenced by the studies of anthropologists and historians, is that very often they do not. Where such differences exist—where other men do not accept the crystal-clear intuitions of the intuitionist—his usual recourse is to attribute their divergence from him to moral obtuseness on their part. This attitude, since it results from accepting the notion that our intuitions

[10] *Foundations of Ethics*, p. 144. For Ross these intuitions are of duties rather than of intrinsic values; nevertheless the principle is the same.

provide us with crystal-clear insight into moral truth, can be avoided simply by the abandonment of that assumption and the realization that our basic evaluations are only tentative, representing partial insights into truth which we must be willing to revise as our moral insight grows.

Having rejected the intuitionists' faith in crystal-clear intuitions as the source of moral knowledge, before passing on I feel that I ought to face one serious problem, which is this : Even if we agree that *most* moral intuitions are only tentative and subject to alteration, are there not at least *some* which are absolute ? Are there not some moral judgments which we can *know* to be true by direct inspection ? This is a very difficult question to answer. I should readily grant that we can have much greater assurance of the truth of some intuitive evaluations than of that of others. For example, it seems clear that the judgment ' Pleasure is intrinsically good ' comes far nearer to embodying a final truth of ethics than the judgment ' Pleasure alone is intrinsically good '. But whether we can affirm of it, or of any other judgment of intrinsic value, that it is true and can be directly seen to be so, is a question for which as yet I have no answer satisfying even to myself. On the side of the intuitionists, it must certainly be admitted that they have come forward with examples which approach very near to self-evidence—for instance, the following : ' The infliction of needless pain is evil '.[11]

By far the most important element in the theory here proposed is the moral imperative. For it embodies the fundamental assumption in terms of which the remainder of the theory is rendered intelligible. Unless it is assumed at the outset, the connection uniting the other essential types of moral judgment breaks down and we are left with merely three isolated types of judgment, morally significant, but theoretically impotent. One special point concerning the moral imperative needs to be made clear, the difference between it and the basic assumption of Utilitarianism. For, much as it may appear to resemble the latter, actually it differs from it. The distinction is this : The utilitarians hold that man's basic obligation, in terms of which all of his duties may be explained, is : Always maximize good *consequences*. The theory here being developed states, on the contrary, that it is : Always maximize good. This change makes possible the avoidance of a serious limitation in the utilitarian position by providing an explanation of certain types of moral obligation, exemplified perhaps best by the duty of justice, which have been a perennial stumbling-block for the utilitarians. On the theory which I am suggesting, a man has a duty to act justly not simply because of the good results which will follow from his doing so, as the utilitarians must argue, but also because just actions are good in themselves, hence, according to the moral imperative, are insofarforth obligatory upon him.

My conception of the moral imperative, perhaps more than anything

[11]B. Blanshard, *The Nature of Thought* (London, 1939), II, 407. For a similar example see C. D. Broad, *Five Types of Ethical Theory* (London, 1930), p. 282.

else, places the theory which I am proposing within the broad tradition of Intuitionism. For, although I disagree with contemporary intuitionists concerning the kinds of propositions which may be called self-evident, hence final and absolute, I nevertheless do, in the moral imperative, myself reach such a proposition. It is, to use Kantian terminology, a synthetic *a priori* ethical judgment. Having said this, I realize that I must be prepared immediately to defend myself. Since objections to such a view can be expected from almost every quarter, instead of attempting to deal with all possible criticisms, I shall limit myself to a brief discussion of what seems to me to be the two most serious objections.

The first of these objections, oddly enough, comes from within the intutionist camp itself. For Prichard and Ross, at least, would deny that the proposition stated above is *the* moral imperative. While agreeing that the obligation to maximize good is *a* moral imperative, they would object strenuously to my contention that it is the only such imperative. On the contrary, they would argue, it represents simply one moral imperative among many and, furthermore, one which we ought to violate whenever some other more stringent imperative comes into conflict with it. Although I believe that this criticism can be answered, to do so adequately would require an argument too long to be included within the limits of the present paper.

The second type of objection is more basic. For it would contest not only my selection of *the* moral imperative but the whole conception of a moral imperative itself, centering its attack on my appeal to an alleged synthetic *a priori* ethical judgment as the basis for my theory. Any appeal to the synthetic *a priori* in ethics can be, and currently is, attacked on at least two different grounds. First, there are those who point out quite rightly that a synthetic *a priori* proposition must be self-evident, hence absolute and final, and conclude, therefore, that any theory based upon an appeal to such a proposition is susceptible to the same charge of dogmatism which I made early in the paper against traditional Intuitionism. Secondly, there are those who would reject the appeal to a synthetic *a priori* in ethics simply as part of their general rejection of the synthetic *a priori* in philosophy.

Of these two objections the first, it seems to me, is the more serious. The criticism is not against the moral imperative simply as an absolute (otherwise it would not differ from the second criticism) but as a dogmatic (or unwarranted) absolute. The method which I have employed, whether successfully or not, to meet this criticism lies in avoiding the two pitfalls which have brought the charge of dogmatism down upon the theories of the intuitionists; namely, individualism and parochialism. The moral imperative differs from all of the three other essential types of moral judgment in a significant way. Although it is not a tautology, it does not, like any of them, embody a *specific* content. Rather it commands the completely *general* duty: Maximize good. It is in this generality that its ability to

escape individualism and parochialism lies. For both of these are essentially expressions of partiality or bias which in turn are products of particularism. As soon as one singles out some particular duty and holds that its obligatoriness is self-evident, or some particular value and holds that its intrinsic worth is self-evident, one is faced with the difficult task of demonstrating the self-evidence of the duty or value so selected. And, as we saw from our examination of the intuitionists' views, the problem is usually met by appealing to the revelations of alleged individual insight or the customs of a limited social group, an appeal whose arbitrariness becomes increasingly evident with the increase in our knowledge of cultures different from our own. The moral imperative escapes these arbitrary limitations and hence the dogmatism to which they lead, because its acceptance is compatible with the acceptance of *any* views regarding the particular things which may be held to be intrinsically good or the particular duties which may be held to be ultimately obligatory—except, of course, duties which are logically inconsistent with *it*. Rather than being exclusive it is inclusive. It is as congenial to the moral theory of the Bantu as to that of the Athenian or American or even the well-brought-up Englishman.

The rejection of the moral imperative as a synthetic *a priori* judgment in ethics on the grounds of a general rejection of the synthetic *a priori* in philosophy seems to me to represent a weaker criticism of my theory than either of the two already discussed. For, however fancy the logical footwork they employ to avoid the consequence, those philosophers who do reject the synthetic *a priori* in philosophy can in the end justify their rejection only through an appeal to a synthetic *a priori*. Since they have not been able, in spite of all their efforts, to escape appealing to some synthetic *a priori*, I believe that I can be pardoned for not following them in such an attempt. (This does not prove, of course, that the moral imperative as I have stated it *is* a synthetic *a priori* ethical judgment but only that the possibility of its being one cannot be ruled out *a priori*, as such critics try to do.)

Such, in brief, is my restatement of the intuitionist position in ethics, proposed in an attempt to avoid the criticisms which have been made against traditional Intuitionism. These criticisms, as stated at the beginning of the paper, were that Intuitionism (1) provides no satisfactory criterion by which to judge the objective validity of the alleged intuitive insights upon which it is based, and (2) embraces an absolutism which is essentially dogmatic. To avoid these charges the theory proposed departs from the traditional view in four major ways : (1) It delineates four essential types of moral judgment and states the logical relationships in which they stand to each other, (2) it re-analyses the nature of intuition itself, (3) it distinguishes between the essential types of moral judgment which are intuitive and those which are not, and (4) it explicitly avoids making all intuitive moral judgments absolute.

Of these four departures from Intuitionism, the first is important be-

cause it provides the necessary groundwork for the other three. By delineating the essential types of moral judgment and stating their relationships to each other the theory makes possible the drawing of a number of crucial distinctions never made in the ordinary intuitionist view. It is through these distinctions that the traditional shortcomings of Intuitionism can be circumvented. The second point, re-analysis of the nature of intuition, explains our moral apprehension in a manner which is more faithful to the actual complexities present than does the regular doctrine of the crystal-clear intuition of simple, easily-isolable qualities. By doing this it escapes narrow-minded moral reactionism. Points (3) and (4) are aimed at mitigating the most serious charge made against Intuitionism, that of dogmatism. Since dogmatism is simply unwarranted absolutism, it can be avoided through the elimination of ethical absolutes. This the theory attempts to do first by eliminating wherever possible the appeal to intuitive insight in the essential types of moral judgment and secondly, where such elimination is impossible, by contending that an intuitive judgment need not be absolute. Through these methods it is able to conclude that, with the exception of the moral imperative, none of the essential types of moral judgment (with the possible exception of a small number of judgments like ' The infliction of needless pain is evil ') is an absolute. This is in contrast to the intuitionists, all of whom hold at least one type and some of whom hold two types to be absolute. The area in which the charge of dogmatism can be hurled, therefore, has been significantly reduced.

Nevertheless, it must be granted, this area has not been totally eliminated. As long as there remains a synthetic *a priori* proposition within the theory, the charge of dogmatism can be made. To avoid it completely would necessitate abandoning the intuitionist approach altogether. This, of course, is a possibility but one which raises other, perhaps more serious, problems than that facing the revised Intuitionism here being proposed. But if one remains within the intuitionist tradition, as I have done in this paper, he must finally accept some moral judgment as absolute and intuitively apprehended as such. It is my contention that the moral imperative best satisfies the requirements for such a judgment.

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THE PHILOSOPHICAL BASIS OF MATHEMATICAL RIGOUR

A branch of science that is potentially of great interest to philosophers is mathematics. Not only is mathematical reasoning involved to an ever increasing extent in the various natural sciences, so that it has become an integral part of their method, but modern mathematics is able, on account of its abstract nature, to exhibit some of the fundamental processes of thought in an exceptionally pure form. It is to mathematics that we naturally turn for examples of the most mature deductive argument, since mathematical concepts and inferences are free from distortion by the recalcitrance of empirical data; and from such examples much can be learned about logic. The vast subject of symbolic logic, for instance, has grown out of investigations into the logical foundations of mathematics. Nevertheless, the original impulse was given to these inquiries some fifty or sixty years ago, and although renewed on a number of occasions, it had largely spent itself by the thirties. It is therefore time to ask whether, by looking afresh at the logic of mathematics, we may not see in it features that suggest new lines of inquiry. I believe that this is the case, and that the time has come for bringing mathematical reasoning into relation with a conception of logic radically different from the one which underlies the construction of systems of symbolic logic. In the present paper I propose to indicate one such complementary treatment of the logic of mathematics, and to show how the resulting theory offers hope of solution of problems that appear insoluble when considered from the more familiar point of view.

In modern times, philosophical interest in mathematics has been directed particularly towards the remarkable rigour that mathematicians have succeeded in giving to their methods of argument. The logic of traditional mathematics is impeccable, and once a theorem has been satisfactorily proved it is knowledge in the strictest sense, never again to be called into question. This is the ideal; and throughout extensive regions of mathematics it is for all practical purposes attained. Demonstrative rigour is, of course, no modern innovation in mathematics, and the noblest monument to this ideal still remains the *Elements* of Euclid; but the deliberate cultivation of logical rigour, above all other qualities, is what has chiefly distinguished both mathematics and the philosophy of mathematics during the past century and a half. I shall accordingly begin the argument of this paper with a brief summary of the recent history of the ideal of rigour.

The nineteenth century was an era of rapid advance in every field of mathematical inquiry. Mathematicians such as Descartes, Newton, and

Euler had already introduced what were to be the pivotal notions of modern mathematics (e.g. functional dependence and its graphical representation, and the ideas of the infinitesimal calculus) and had carried out much of the formal elaboration of these ideas, and there was now less need for primitive pioneering than for consolidation of territory already won. The nineteenth century saw the creation of the great deductive systems which make up classical mathematics—the majestic edifice of analysis, the theory of numbers, projective geometry, and the older parts of differential geometry. Towards the end of the century both topology and modern algebra were coming into being, but these belong more properly to twentieth-century mathematics. The construction of " classical " mathematics was an undertaking that called for both creative and critical power, and its architects, men such as Gauss and Cauchy, were both innovators and critics. Well-known instances of critical innovation that proved fundamental to the further development of rigorous mathematics are Gauss's enunciation and proof of the theorem that every algebraic equation has at least one root in the complex field and Cauchy's work in giving precision to the previously vague notion of the sum of an infinite series. Gauss and Cauchy are typical of their age in being deeply concerned alike with the extension of mathematical knowledge and with its logical clarification, and through the course of the century we find a succession of great mathematicians addressing themselves to this two-fold task, the last of the line being Hilbert. But whereas at the beginning the quest for greater rigour was almost incidental to the study of mathematics proper, as the century advanced the logic of mathematics came more and more to be an independent object of study, and logicians of mathematics took their place by the side of the mathematicians. Gauss and Cauchy were mathematicians with a critical approach to their work, and so in a later generation was Dedekind ; but Peano and Hilbert, although initially mathematicians, turned more and more to logic, while Whitehead and Russell belong more properly to philosophy than to mathematics.

Philosophical examination of mathematics received a great impulse from the work of Cantor and the controversies to which it gave rise from 1874 onwards. Cantor propounded a theory of infinite aggregates, and extended familiar arithmetic to a theory of cardinal numbers of any aggregates whatever, finite or infinite. His critics, particularly Kronecker, objected that it was not legitimate to treat an infinite aggregate, which can never be " given " as a finite aggregate can, as a simple object of thought. The controversy was by no means an idle one, as the notion of aggregate was playing an increasing role in mathematics (in Dedekind's work on numbers, for example) and in the end it proved, at Russell's hands, to contain a latent contradiction. The resulting philosophical difficulties still constitute today an unsolved problem in the philosophy of mathematics.

Deliberate logical scrutiny of the foundations of pure mathematics, as

distinct from logical clarification rendered necessary by the progress of mathematics itself, may be said to begin with Peano, whose first book[1] was published in 1884. This book was a textbook on the calculus, of the ordinary form, based on the lectures given by Genocchi at the University of Turin, but in compiling it Peano set a new standard of rigour. Although the calculus was by this time one of the most thoroughly studied branches of mathematics, the standard expositions still contained many statements and proofs of theorems that were inexact or incomplete, and Peano was able again and again to show by means of counter-examples that further qualification was needed. He realized, moreover, that even though he himself had been much more critical than most of his predecessors, his own treatise could not be taken as the last word on the subject. A more acute critic, with more knowledge of the logic of mathematics available to him, might subsequently discover that further tightening up was necessary. Considerations such as these prompted Peano to ask himself whether pure mathematics might not be made absolutely rigorous, and to devise a way of attaining this end, namely by formalization of all mathematical statements and inferences.

Mathematics fails to be rigorous in so far as it is intuitive. This fact was already appreciated by Cauchy, who gave precise definitions of many notions in analysis that had previously been left vague; but the concepts used by him still contained much that was intuitive. He was prepared to prove fundamental theorems about functions, for example, by arguing geometrically about their graphs, accepting as intuitively evident the properties of continuous curves. Peano, on the other hand, realized that if complete rigour is to be achieved intuition must be banished completely from mathematical argument. Intuition is certainly not irrelevant to mathematics, but because of its inherent imprecision it can have no part in the process of logical demonstration. One of Peano's main interests throughout his career was the study of language and communication (in later years he gave much thought to such matters, and published his mathematical work in an international language of his own devising) and it was therefore natural for him to construct a symbolic language which would allow him to make formal mathematical statements without introducing intuition through the associations of ordinary words. This new language was the forerunner of the now familiar symbolic logic. Peano's programme was to formalize mathematics in successive stages, first arithmetic, then the elementary parts of analysis, and so on; and various mathematical theories were in fact formalized by him and his collaborators. Their method was to take the strictest existing treatments and to translate them, with appropriate modifications, into the new language. The process of translation meant considerably more than mere change of vocabulary, however,

[1] Angelo Genocchi: *Calcolo differenziale e principii di calcolo integrale*, pubblicato con aggiunte dal D. Giuseppe Peano (Turin, 1884).

since intuition had to be eliminated from the inferences as well as from the propositions of the theory.

Each formalized theory began with appropriate primitive concepts and primitive propositions, that is to say with an act of postulation of the entities or classes of entities involved in the theory and of basic relations that are sufficient to determine the relevant properties of these entities. In arithmetic, for example, the primitive concepts are 'number' (i.e. the class of natural numbers), '0', and 'successor', while the primitive propositions are Peano's five axioms. In addition to the primitive concepts and propositions that are specific to each particular theory, a formalized logic is also required to take over the intuitive function of ordinary mathematical deduction, and this logic is a common presupposition of all the separate theories. In the formal derivation of propositions, which is the counterpart in the system of ordinary deduction of mathematical theorems, every step must be stated, no matter how trivial, since only in this way can illegitimate appeal to intuition (or to self-evidence) be decisively eliminated.

Peano's attempt at complete formalization of mathematics was the culmination of a century of progress towards the ideal of satisfactory rigour; but as we look back upon it today we are able to see that it marked the beginning rather than the end of an epoch. For a number of reasons it was not destined to be final. The successive formal systems, published in the *Formulaire de Mathématiques* from 1895 onwards, had the limitations that are almost inevitable in a first attempt; and the logical calculus itself was too crude to exhibit the whole of the structure of mathematical theories. Furthermore, Peano's point of view was that of a mathematician, not of a philosopher, and he was content simply to postulate the primitive concepts and primitive propositions as primitive, without seeking any more fundamental definition or justification of them. His work of formalization was soon afterwards extended in this direction by Russell, whose investigations revealed the full logical complexity of mathematics and opened up a vast new field of inquiry.

Up to this point in the history of the philosophy of mathematics the idea of rigour had developed naturally and smoothly, as the meaning of rigour gradually became more precise and the standard set by mathematicians was continually raised. The sharpest controversy had revolved around the ideas of Cantor; and even here the point at issue was simply whether certain new or generalized conceptions could be admitted into mathematics, not whether the established concepts were legitimate. But from the beginning of the twentieth century all was changed. The legitimacy of the whole of traditional mathematical knowledge was now called into question, and the very notion of legitimacy itself was found to lack simple or obvious meaning. The change was brought about by two great constructive enterprises, each of which was intended to make firm the foundations of mathematics once and for all, but each of which in fact demonstrated that no foundations of

the kind envisaged were possible. These enterprises are known to the history of the subject by the names of Logistic and Formalism respectively. Since the constructive part of the present paper begins with the knowledge derived from their breakdown, it will be necessary for me to describe them briefly.

The Logistic philosophy of mathematics was mainly the creation of Russell,[2] who extended Peano's ideas in a direction that I have already indicated. Peano had taken mathematics as he found it, and sought to increase its formal rigour by completely eliminating intuition from mathematical demonstration. This meant that his criticism was directed to the structure of the edifice of mathematical theorems, not to the foundations on which the whole was supported. Also he was not very much concerned with the relation between different parts of mathematics. Carried to its logical conclusion, however, his work of reform would entail very much more, namely the construction of a single rigorous system in which every branch of mathematics would find a place, and philosophical justification of the primitive concepts and propositions on which the system is founded. By simply postulating the primitive constituents of his system, Peano risked making the system either arbitrary or else dependent implicitly on intuition, and it was this danger that Russell hoped to be able to avoid. Instead of merely taking the initial entities of mathematics as primitive and possessing no properties except those embodied in the primitive propositions, he proposed to *define* them in terms of logical concepts. From the point of view that he adopted, logic could be accepted as self-evident, and then mathematics justified by exhibiting it as a purely logical construction. The cardinal number of a class, for instance, was defined as the class of all classes that can be put in one-one correspondence with the given class; and number was accordingly definable in terms of such logical concepts as class and relation. Logic itself was simply accepted, for it is the common presupposition of all thinking; and all that was needed was to clarify it and work it up into a sufficiently elaborate symbolic calculus. To proceed in this way was merely to push the difficulties one stage further back, for Russell now had to rely on the formal rigour of logic instead of on that of mathematics; but there was real progress, since only one formal theory now needed to be presupposed, and that one was in a real sense fundamental to all thinking.

The system of symbolic logic developed in *Principia Mathematica* must be deemed to be one of the really great creations of the mathematical mind, both for its intrinsic interest and also for the way in which it illuminates the logical articulation of all deductive systems; but as the basis of the Logistic interpretation of mathematics it has a number of weaknesses. Thus the notion of existence that plays so large a part in it is not a purely logical notion, and the important Axiom of Infinity refers to the individuals

[2] The equally profound work of Frege had little influence on other philosophers.

that exist in some material sense. But what brought about the final collapse of the Logistic enterprise, and with it the abandonment of the whole attempt to absorb mathematics into logic, was the realization that the antinomy of the class of all classes that are not members of themselves was no superficial paradox but a manifestation of an inconsistency inherent in the apparently simple concept of class-membership. When examined sufficiently closely, logic was found to be no more rigorous than mathematics, and although the Logistic theory had the great merit of revealing this most important and hitherto unsuspected state of affairs, it failed to replace the intuitive notion of rigour by anything more ultimate or more satisfactory.

Logistic was succeeded by Formalism, a less ambitious attempt to make mathematics rigorous in a precisely defined sense. The Formalist programme was devised by Hilbert, who was a mathematician much more than a philosopher and who wished to vindicate the rigour of ordinary mathematics. The greatest need was now to show that traditional mathematics was not invalidated by the logical weakness that had been shown up by Russell's paradox, and Hilbert proposed to do this by giving a direct proof of the consistency of mathematics. To be cogent, the proof could only make use of indubitable arguments, that is to say arguments so simple that they must be accepted if reasoning is to be possible at all, and not involving any of the logical concepts that had been rendered suspect by Russell's work. Such limitation to " finitist " argument is only possible if the subject-matter is very severely restricted, and Hilbert's projected method was to obtain an appropriate subject-matter by first carrying out a complete formalization of mathematical theories. Each theory was to be formalized in the manner of Peano, but more thoroughly. Peano's formal theories were mathematics itself in rigorous form, but Hilbert's formalisms were formal equivalents of mathematics, designed only to serve as basis for a finitist proof of the consistency of the mathematics. In each formalism, mathematical entities were replaced by mere symbols, propositions by formulae or complexes of symbols put together in accordance with prescribed rules, and the act of inference by formal derivation of a new formula from a previous formula or formulae, again in accordance with definite rules. Neither in the formulae nor in the derivations is any attention paid (within the formalism) to the meaning of the symbols, for as constituents of the formalism they have no meaning. The construction of the formalism is based upon the mathematics which the formalism is intended to imitate, in such a way that a formula is derivable if and only if the corresponding mathematical proposition is provable by ordinary rigorous mathematical argument. If, now, it can be proved by finitist reasoning that no two contradictory formulae can ever be derived within the formalism, it will follow that the original mathematics is free from contradiction; and this is all that Hilbert set out to establish. Since the formalism is a well-defined construct, and every derivation that is possible within it is a finite sequence

of symbols, we may hope to be able to restrict the metamathematical reasoning (i.e. the reasoning about the mathematical system) to inferences that are all finitist.

The first stages of the Formalist programme were carried out uneventfully. The logical calculus, in its simplest form, was proved consistent by very simple mathematical argument, and a certain amount of the theory of numbers (based upon Peano's axioms) was formalized and also proved consistent. As more of arithmetic was taken into the formalism the extension of the proof of consistency became correspondingly more difficult, until eventually a system was arrived at which presented an insoluble problem. Finally, in 1931 Gödel succeeded in demonstrating that, for any system as wide as this, a finitist proof of consistency is impossible. Hilbert's hope of being able to prove that traditional mathematics, at least, is free from contradiction was therefore illusory. Thus Formalism, no less than Logistic, failed to reveal the ultimate source of mathematical rigour, and the fundamental problem remained unsolved. During the quarter of a century that has elapsed since Gödel's publication of his famous paper, the rigour of mathematics itself has continued steadily to increase, but a finally satisfactory analysis of mathematical knowledge is still lacking.

Rigour, in the most obvious sense of the term, is a logical characteristic of mathematical reasoning. When a schoolboy is learning mathematics, his ability to appreciate rigour in what he reads in his textbooks, and to argue rigorously himself in proving theorems and riders, increases as his logical powers develop ; and unless he has some aptitude for logical demonstration the real point of pure mathematics will always be lost upon him. This is the case even at an elementary stage, and understanding of more advanced mathematics (as opposed to skill in manipulating advanced techniques for practical purposes) presupposes correspondingly greater logical capacity. That mathematical rigour is grounded in logic is reflected in the two investigations into the foundations of mathematics that I have been describing. Formalism was an attempt to establish the security of mathematics by a definite proof of consistency, and this proof was to depend only upon acceptance of certain indisputable logical principles, the principles of finitist inference. The Logistic programme was based no less completely, although in a different way, on logic, for here the intention was to analyse all mathematical concepts into pure logical constituents. The failure of both undertakings suggests that the relationship between mathematics and logic may perhaps have been wrongly understood, and prompts reconsideration of the nature of this relationship. What emerges from an examination of the situation is the conclusion that the conception of logic most commonly regarded as appropriate to mathematical reasoning may after all be inappropriate, and the philosophy of mathematics may have reached an impasse largely because that conception is too narrow; for although much has been discovered with the aid of the accepted theory

of deductive logic, the main outstanding problems have shown themselves to be intractable. Such a conclusion is, of course, debatable; but, whether it can finally be accepted or not, I believe that it is worth serious consideration, and that discussion of it will reveal facts and produce ideas that add substantially to our understanding of mathematics and its philosophy. The wider view of logic that I regard as essential in this connexion can only be treated properly in a more comprehensive context, where attention is paid to the various forms of concrete thinking as well as to reasoning of a more mathematical type; and mathematics itself cannot be isolated, without damage, from the whole body of concrete thinking.[3]

The statement that logical justification is the kind of justification of mathematics that we must look for is satisfactory as far as it goes, as a first approximation to the truth, and the grounds for it are quite simple. Each type of reasoning has its proper criteria, by which its correctness is judged, and a proper mode of justification of its conclusions as knowledge. The more concrete the thinking, the more do the relevant criteria tend to be specific to the particular domain concerned. Everyday thinking about practical affairs, moral deliberation, literary criticism, and the many species of scientific research, to take but a few examples, are typical forms of rational activity, involving reasoning that may fall anywhere between the extremes of strict ratiocination and intuitive seizing upon what is seen to be the truth of the matter. The man who knows how to perform the activity well is a man of sound practical sense, a responsible moral agent, a reliable and illuminating critic, or a good scientist—in short, he is a man good at the thing that he is doing. The criteria by which his activity must be judged are implicit in the activity itself, and to say that he knows them, in the sense of being able to subject what he is doing to their control, is the same as saying that he is master of this particular activity. The implicit criteria can be made explicit by philosophical analysis; but (as the example of mathematics shows) the analysis may be extremely difficult to carry through.

Each concrete form of rational activity, then, evolves its own criteria of validity. Among the criteria acknowledged in a particular field there may be some that apply only in that field, others that hold also in certain related fields, and yet others that are of universal validity. These last are the logical criteria, to which all reasoning is subject, whatever may be the content of the propositions involved. The more abstract thinking becomes, the more do logical criteria tend to predominate, for abstraction means elimination of extra-logical content. In mathematics, which is the most abstract thinking of all, nothing but logic remains. A slightly less extreme case is that of natural science, where there is an empirical content as well as the logical form; but even here, as science matures and becomes more theoretical, so the balance steadily shifts in favour of logic.

[3] See also the author's paper "Abstract Logic and Concrete Thought" in the *Proceedings of the Aristotelian Society*, Vol. LVI (1955-6), pp. 25-44.

A major task for philosophy—possibly indeed its main work—is the elucidation of the criteria implicit in all the many modes of rational activity; and elucidation means both descriptive analysis and also exhibition of the criteria as principles commanding assent. It is not enough to say that such and such criteria are implicitly acknowledged in such and such a society or body of scholars, the assertion being based on observation of what is actually done. But neither will it do simply to add a formal logical justification, saying that the criteria are valid because they follow from certain general principles. To do this is either to commit a fallacy of circularity or to become involved in an infinite regress, and in neither case will anything have been explained. What is needed is a true philosophical justification, having the force of Kantian transcendental deduction (whether or not it proceeds from Kantian principles). Kant's process of deduction was conceived in logical terms, being based on the conception of an unchanging *a priori* form of thinking; but it seems more in accordance with present knowledge to seek a dialectical justification, based on a phenomenology, or theory of the progressive formation of knowledge by the interaction of minds, possessing a conceptualized knowledge of a world of experience, which for them supplies an *a priori* form, and the factual content of the world as object of an intuition on which this form is already impressed. Such a dialectical philosophy is obviously consonant with those studies that are usually classified among the arts, and it is no less appropriate to natural science. The fact has become very plain in recent times that the concepts of physical science are by no means absolute, but are products of just such an interaction as that to which I have referred.[4]

The sense in which I am using the term 'dialectical' requires explanation, for the word has many associations which could lead to misunderstanding. To define the precise sense briefly is impossible, for the notion itself is both complex and elusive, and I cannot undertake within the limits of the present paper to discuss the very important distinction between dialectical and deductive or demonstrative reasoning. Very roughly, however, the difference is this: whereas deductive reasoning operates with fixed concepts, which might be represented by the symbols of a logical calculus, dialectical reasoning always brings about development of concepts. By deduction, we infer propositions from other propositions containing the same concepts; but when we carry out thinking that is dialectical, we fashion or refashion concepts in order to think more adequately about whatever it is that is interesting us. Mathematics, on the face of it, is completely undialectical; but this is only appearance, and it is my thesis in this paper that the basically dialectical character of mathematics is precisely the feature that has been neglected hitherto.

The view that philosophical justification of mathematics and mathe-

[4]Compare the views expressed by J. R. Oppenheimer in his Reith Lectures, *Science and the Common Understanding* (Oxford, 1953).

matical rigour must be dialectical rather than logical finds some support in the history of the philosophy of mathematics. Peano, as I have stated, based his system of mathematics on an elementary symbolic logic which was intended as a formalization of the deductive logic already intuitively familiar—translation into symbolic language serving to enhance clarity and precision, and to guard against illegitimate appeal to intuition beyond what has been sanctioned at the outset. Russell then went further, and sought to eliminate even the initial postulation of extra-logical entities by defining everything in terms of his much more elaborate symbolic logic. The whole system of *Principia Mathematica* was thus based on self-evident logical axioms. But can such axioms be relied upon to support so much? Are they anything more than a convenient formalization of principles found to be fundamental to thinking within a certain historically determined cultural tradition, and sufficient to characterize the structure of this thinking? It would seem more appropriate to turn the system upside down and, instead of interpreting mathematics as a part of logic, to look upon symbolic logic as itself a part of applied mathematics—a mathematical formalism that exhibits in symbolic form the structure of deductive argument, as arithmetic exhibits the structure of numerical measurement. Such a reorientation of ideas is implicit in the work of the Formalists. When the occurrence of the paradoxes led to abandonment of the Logistic interpretation of mathematics, Hilbert sought to dispense with logical analysis of basic mathematical concepts. In his view, mathematics deals with various formalized deductive theories which are idealizations of logical patterns in experience—or possibly generalizations of such patterns—as Euclidean geometry is a formalization of the relations which hold approximately between distances as found by actual measurement. Mathematics has its own standards and criteria of rigour, but to be sure that these are sufficient to exclude contradictions which would vitiate the whole theory we need a finitist proof of consistency. It is to be noted, in this connexion, that Hilbert did not wish to substitute for mathematics something else (say logic) but simply to show categorically that mathematics has a certain property that he regards as essential, namely formal consistency. He looked upon both mathematics and metamathematics as autonomous activities. There are other mathematicians and philosophers of mathematics who have gone much further than Hilbert in withholding from logic the right to legislate for mathematics, especially those associated with the movement known as Intuitionism. The best known of the Intuistionists is Brouwer, but the movement has a comparatively long history, and a more or less Intuitionist point of view has been taken up by mathematicians such as Kronecker, Poincaré, and Weyl.

I refer to Intuitionism as a movement rather than a particular enterprise or a programme because it has never crystallized as definitely as Logistic or Formalism. Among Intuitionists, Brouwer is the only one who has tried

seriously to construct a comprehensive system of mathematics on Intuitionist principles ; and his work has proved unacceptable to the majority of mathematicians, because it entails the jettisoning of much of traditional mathematics and the restatement in very complicated form of what is retained. But although Intuitionism has not been generally accepted as a theory, it has been more widely adopted as an ideal or a point of view, and an Intuitionist tendency can be discerned in much of modern mathematics. Possibly for this very reason, Intuitionism has not been relegated, like Logistic and Formalism, to the history books.

Intuitionism takes its name from its basic contention that mathematics is based on an ultimate act of intuition, not reducible to logical or any other non-intuitive terms. The most fundamental entities in mathematics are the natural numbers 1, 2, 3 . . . ., and their origin must be sought in the mind's power of performing successive acts of attention (*cf.* the *innere Sinn* of Kant). The arithmetical properties of the natural numbers are reducible ultimately to the direct intuitive relation of immediate succession. This relation gives rise to the serial structure of the number system. It finds its most convenient expression in the principle of mathematical induction (the principle that if a property P is such that (i) it is possessed by the number 1, and (ii) if it is possessed by any natural number then it is possessed also by the successor of that number, then P is a property of all the natural numbers. This principle was held by Poincaré to be the basis of valid mathematical inference. Now, besides the natural numbers, mathematics deals with rational numbers, real numbers, and entities, such as functions, of a still more complicated nature, and these must be derived in appropriate ways from the primary intuition. In other words, they must all be constructed out of natural numbers. By construction is understood, in this context, a process whereby the entity in question can be produced (or at least produced to any preassigned degree of approximation) by actual calculation. Mere hypothetical existence, unrelated to a possible method of computation, is condemned by Intuitionists as devoid of significance. But much of traditional mathematics makes extensive use of such existence, and for this reason it is rejected by Intuitionist mathematicians and philosophers.

The Intuitionist critique of the notion of mathematical existence is particularly relevant to my immediate topic—the inadequacy of the common view of the nature of deductive logic—because it implies recognition of the fact that even the best established principles of inference have no absolute validity. The Law of the Excluded Middle, for instance, does not hold in Intuitionist mathematics ; for it may well happen that, for some proposition A, neither A nor $\bar{A}$ is provable by constructive means, and consequently the proposition A v $\bar{A}$ cannot be asserted. Again, from the Intuitionist point of view negation is no longer a simple logical concept. The arithmetical relation $a \neq b$, for example, can be interpreted in various ways—e.g. as meaning that the proposition $a = b$ leads to a contradiction

or that the difference $a - b$ can be proved constructively to be distinct from 0. The logical structure of Intuitionist reasoning accordingly differs considerably from that of more orthodox deduction, and when it is formalized (as has been done by Heyting) a symbolic logic is arrived at that is not at all the same as the system given in *Principia Mathematica*. This state of affairs illustrates very clearly the view that logic is derivative from actual reasoning and not prior to it.

The philosophical theories of mathematics, whether Logistic, Formalist, or Intuitionist, are perhaps concerned more with ideal conceptions of what mathematics ought to be than with what it actually is; and we should therefore look at mathematics itself in order to see if it is wholly deductive, or if any considerable dialectical element is to be found in it. When we do this, we find that in actual fact dialectical reasoning is even more fundamental to mathematics than is deduction. Mathematics is usually thought of, by philosophers of the subject no less than by those who take it more for granted, as a body of propositions. But although it is true that the mathematics of the textbooks is such a propositional edifice, propositions are by no means all that the creative mathematician is concerned with. While it is a noteworthy feature of mathematics that in the end all mathematical knowledge can be cast into propositional form, we should not assume too hastily that the propositions *are* mathematics. For mathematics is properly a *process* of thought, an activity of thinking, and it must not be confused with the *results* of the thinking. Confusion of this kind is hardly possible in the spheres of ethics and aesthetics, where rational activity so obviously involves very much more than can be identified with the propositions that serve to express judgements, but it becomes a serious danger whenever philosophy takes any sort of reflective thinking for its object; and the more abstract the thinking the more natural the error. No thinking can be more abstract than mathematics, but even here it is easy to show by examples that more is involved than propositions and logical relations between propositions.

In algebraic geometry it has long been believed that two plane curves, represented by equations of degree m and of degree n respectively, have mn points of intersection, when these points are counted properly. In simple cases there are in fact exactly mn distinct points; but if the curves touch, or if a point of intersection is a multiple point of one or both of the curves, the number of distinct common points is less than mn, and the number can only be made up to this value by counting some of the points multiply. There are good commonsense reasons for counting as a two-fold point of intersection a point of simple contact, or a point which is a double point for one curve and through which the other curve passes simply without touching either of the branches of the first curve; but common sense (i.e. geometrical intuition) is scarcely a sufficient guide in more difficult cases. In modern algebraic geometry, the proposition that the number of points of intersection is exactly mn is a theorem (Bézout's Theorem) that can be

proved rigorously; but it did not become rigorously provable until the intuitive notion of multiplicity of intersection had been replaced (by slow degrees) by an elaborate logical definition, and until concepts had been developed which made possible a satisfactory analysis of the multiple points of a curve. And now that Bézout's Theorem is provable it is no longer a proposition about curves as they are known immediately to geometrical intuition, but an item in an idealized conceptual theory.

The history of algebra and analysis offers many examples of thinking that is not wholly deductive, many of them conforming more or less to a common pattern. With the help of concepts and propositions suggested by intuition or arrived at by generalizing and extending the scope of established mathematical knowledge, conjectural theories are propounded which open up new prospects in mathematics, although they cannot stand up to logical criticism. Of such a nature was the first tentative use of infinite series, and a more recent instance is the introduction by Kummer of his ideal factors. The ordinary integers have the property that each of them can be resolved, in essentially the one way only, into prime factors, i.e. factors that cannot be split any further, and this fact has been known from early times. More recently, Gauss showed that the numbers now known as Gaussian integers (complex numbers $a + ib$ with a and b integral) have a similar property; and the same thing is true also of numbers $a + \theta b$ for many values of θ which satisfy an equation of the form $\theta^2 = m$, m being a given positive or negative integer. When $m = -5$, however, uniqueness of factorization breaks down. Kummer showed that it can be re-established by introducing suitable ideal factors, or fictitious numbers adjoined to the system of numbers of the form $a + b\sqrt{-5}$. When a number of the system has two distinct resolutions into irreducible factors, these irreducible actual numbers can be split further into ideal factors, and both resolutions of the original number then yield the same expression in terms of ideal factors. What has been achieved in this way is an extension of the range of validity of a fundamental arithmetical theorem, at the cost of introducing into mathematics entities of a new and mysterious kind. Such a state of affairs is unsatisfactory and can only be accepted provisionally. In the case of ideal numbers, Dedekind made Kummer's innovation rigorous by using certain classes of actual numbers, which he called ideals, in place of Kummer's fictitious ideal numbers, and in this way he was led to introduce what has since become one of the most important concepts in modern algebra.

We see from examples such as these that mathematical research involves other kinds of reasoning besides demonstration of theorems by means of an already existing equipment of concepts and modes of argument. Exploration of interesting mathematical situations, for instance, is often a fruitful undertaking, and it may well call for formation of new concepts or extension of old ones. Extension of concepts is invariably a feature of

dialectical thinking, in mathematics as in every other part of rational activity. Concepts (with minor exceptions that need not be considered here) are never completely defined, but are determinate only in those respects that are connected with their actual use ; and if occasion arises for using a concept in an essentially new situation, the definition of the concept may have to be enlarged by bringing new features within its scope. The history of such mathematical concepts as *number* and *space* is a record of continual extension of definition and of meaning. When a concept is extended dialectically (i.e. so as both to fit and to mould new experience) the meaning of the word attached to the concept undergoes a corresponding extension, and in this way the dialectical process of thought is mirrored in a concurrent development of language. This complex logical and linguistic process of change is of particular importance in the natural sciences, where it allows the theories and explanations of one generation to become part of the data of succeeding generations. In science, extension of concepts has the effect of impressing a modified and more manageable form on empirical data, and in mathematics it sometimes fulfils a similar function, allowing large parts of the subject to be governed by a few fundamental theorems. This kind of conceptual economy is characteristic especially of modern mathematics. In mathematics, moreover, there is occasionally extension of logical principles as well as extension of concepts. Introduction of the methods of proof by transfinite induction is a case in point, and so also is explicit recognition, as cogent arguments, of demonstrations using the Axiom of Choice.

The view that mathematical reasoning is not entirely formal is one to which various objections can be made. It might be said, for example, that it is misleading to represent mathematical inquiry as a dialectical process, since concepts are only fluid when a mathematical theory is going through its earlier phases, and as the theory matures so it becomes completely propositional, and its concepts are then fixed and precisely defined. This is indeed true—and not only of mathematics but of all acquisition of knowledge—but it does not affect the issue. It must be remembered that what we are seeking to justify philosophically is mathematical *thinking*, not any particular body of mathematical *knowledge*, and dialectical evolution of concepts is an integral part of this thinking. If we confine our attention to some one individual theory, such as the infinitesimal calculus or differential geometry, it is natural to look upon the early intuitive thinking about it as provisional, and to treat the formal argument that is eventually distilled as the real mathematics ; but mathematics as a whole cannot be interpreted in this way. There is no time at which mathematics is either wholly intuitive or wholly formal, since at any time the newer parts of it tend to be intuitive or tentative, and the more firmly established parts tend to be formal. As long as the subject remains alive, concepts continue to change and develop, and reorientation of ideas occurs again and again, even in those theories which have already become classical, What has to

be justified philosophically is the whole complex process of thought, in which are always to be found imaginatively suggestive notions as well as definite concepts, and conjectures and tentative assertions as well as demonstrated theorems.

New branches of mathematics often begin their existence in a concrete form, and the mathematical concepts are at first apprehended only vaguely and intuitively. The subject of statistics, for example, is only now emerging from this phase (partly through the work of Kolmogoroff, who showed how the mathematical concept of the measure of a set of points leads to precise characterization of the properties of statistical distributions) while the theory of games is still in it. In both these examples mathematical investigation has received its initial impetus from hoped for applications to actual experience, but there are also cases in which corresponding developments have taken place within the realm of purely mathematical ideas. The history of geometry offers many examples of this, such as the introduction by Poncelet of the ideal circular points at infinity. Whatever may be the source of the initial ideas, if these prove to be of sufficient mathematical interest they are gradually transformed by the characteristic process of dialectical development. As thinking proceeds, vagueness is steadily reduced, and a rigorous mathematical theory comes into being. It should be observed, however, that every movement within mathematics eventually comes to a standstill, when the initial impetus is spent, and every new set of ideas is eventually exhausted. At any time we can ask for a solution, in terms of the concepts then current, of the problems that arise at that time; but we cannot ask for a definitive solution of "the fundamental problems of mathematics", since new concepts and new directions of advance may give rise to problems that cannot at present be conceived.

And yet there is a sense in which mathematical knowledge is permanent, and certain ideas and problems remain fundamental to it. Much of what is to be found in the *Elements* of Euclid is no less significant now than it was when that work was compiled; and this seems to contradict what I have just said. The contradiction, however, is only apparent, for there are several ways in which permanent items of knowledge are possible in spite of dialectical change. In the first place, concepts that are very abstract correspond to elements of structure in knowledge, and the structure sometimes remains when the substance is altered. Among the simplest of such structural elements is the concept of number, and it is for this reason that the arithmetical books of the *Elements* retain their validity and their importance. Other concepts are lasting because capable of repeated rejuvenation. Such concepts as *God*, *matter*, and *cause* have meant different things in different ages and societies; but since there is a family resemblance among the various meanings, a statement that is true with one interpretation can be true also, though differently, with one or more of the other interpretations. This ambiguity of concepts and of words can be treacherous, since it sometimes

produces an appearance of communication across the ages when in fact there is little or none ; but it also makes a positive contribution to dialectical thought, by making possible evolution of concepts without abandonment of existing knowledge. This is how it sometimes gives rise to an apparently undialectical permanence of mathematical knowledge. Rejuvenation of geometrical concepts, for instance, has enabled Euclidean geometry to outlive the changes that have taken place in the philosophical notion of space. The fact that much of mathematics appears to be exempt from revision does not therefore tell against the view that mathematical thinking is dialectical. We shall expect the characteristic features of the dialectical process to be most marked in those parts of mathematics that are the foci of present research, and it is here that we should look for examples of non-demonstrative thinking. Such thinking is not normally found in those parts of mathematics that have come to be regarded as " classical ".

It would be quite erroneous to treat dialectical thinking and demonstrative thinking as two exclusive species of the generic activity of thinking. Thinking is a concrete process of great complexity, which shades off by continuous gradation into non-intellectual functions, such as sensory apprehension, which are not modes of thinking at all. In order that thinking may itself be made an object of thought, we have to idealize it (though we need not do so consciously) by looking at it through a conceptual filter ; and the concepts of our present cultural tradition enable us to recognize a certain complex of features that we associate with demonstrative thinking, and a different complex to which I have attached the name " dialectical ". Roughly speaking, it is true to say that thinking (and in particular mathematical thinking) is dialectical in the large but usually demonstrative in the small. Reflective thinking, in fact, involves two complementary processes : development of appropriate concepts, and organization of facts with the help of the concepts available. Organizing knowledge is a matter for deductive argument, and it is carried out with the aid of a system of concepts which are taken to be clearly defined, fixed, and coherent. The process can only be performed successfully if both the concepts and the facts (i.e. the content of the relevant domain of experience) are such that a self-consistent theory is possible. In practice this condition is normally satisfied by most bodies of knowledge, but in times of radical revision of ideas (exemplified, for instance, by the period of change in physical knowledge since the rise of atomic physics) the familiar concepts may no longer suit the facts. In any case organization is only valid locally, that is to say within the bounds of limited branches of knowledge or limited stretches of time ; and the history of philosophy shows that the ideal of a universal system of knowledge is unattainable. The local boundaries only cease to be barriers when development of concepts themselves is taken into account, or in other words, when thinking is recognized as dialectical.

If we look at mathematics and its history, we find the two processes

of dialectical development of concepts and organization of knowledge by means of available concepts clearly discernible. Demonstrative organization is used constantly in the formulation of abstract theories and in exposition of mathematics in treatises and textbooks. Almost any standard work could be taken as an illustration. Some expositions are cast in strict deductive form, e.g. Euclid's *Elements* or, to take a modern example, Landau's *Vorlesungen über Zahlentheorie*, while others, such as de la Vallée Poussin's *Cours d'Analyse Infinitésimale*, have a rather more literary flavour; but, whatever may be the manner of presentation, the characteristic features of demonstrative reasoning are unmistakably present. These are determinacy and fixity of concepts, deduction of propositions in a sequence that exhibits clearly their logical dependence, and acceptance of every demonstrated proposition as completely true in what it asserts. Earlier conclusions may need to be supplemented when the theory is further elaborated, but they cannot be taken back unless the theory itself is replaced by a different one. For dialectical development of concepts, on the other hand, we must look to research rather than to exposition. Not all mathematical research will do, for much of it is an attempt to solve outstanding problems or to prove conjectured theorems, and is accordingly non-dialectical. Evolution of concepts is the outcome of research that is more radical in its intention. The dialectical element in such research is often hidden, and can only be detected with difficulty. It is concealed partly by the process of rejuvenation already alluded to, which often disguises the fact that two theories are concerned with different concepts although both use the same words, and also by the use of tentative demonstrative argument when the conclusions of the research are written up for publication. Mathematical papers are hardly ever overtly dialectical, but many of them should be understood as pieces of demonstrative reasoning subordinate to a dialectical movement of thought which gives them their significance (whether or not this would have been acknowledged by their authors). The account given by von Mises of his notion of a collective in the theory of probability is a good example of tentative argument which is more properly dialectical. The notion in question is easily shown to be self-contradictory, but that does not invalidate von Mises's work, because he was seeking to devise suitable concepts rather than to prove theorems.

Development of concepts, unlike deductive unfolding of the consequences that follow from a chosen set of axioms, calls for the concrete process of thinking itself, and no formal logical substitute for this process is adequate. Whatever logic there may be implicit in dialectical thinking is therefore necessarily a concrete logic. In this way there arises a seemingly paradoxical situation; for in so far as mathematical thinking is dialectical it appears to be both personal and impersonal at the same time. It is personal because thinking is a process that can only take place in the minds of individual mathematicians, and impersonal because it produces a body of

mathematical knowledge that is accessible to every individual mathematician, and valid for all alike. Individual thinking and historical development of knowledge are inseparable, in mathematics as in every realm of thought. Indeed, every kind of rational activity gives rise to a dialectical process, in which knowledge, moral insight, aesthetic sensibility, or whatever it may be that is involved, grows by the gradual maturing, generalization, and extension of what already exists as part of the cultural tradition. In the very special case of deductive inference the objectivity of the conclusions reached can be accounted for by the fact that the process of deduction is governed by very simple logical laws which are the same for every thinker; but where there are no such laws, objectivity presents a serious philosophical problem. The very stubborn problem of induction is a case in point. How are we to account philosophically for the objectivity of the conclusions of natural science? Attempts have been made, as by Mill and Keynes, to make induction dependent on deduction or to base it on very general laws of uniformity of nature, but these are not at all convincing, and they leave out of account the element of originality in scientific method. Some inductive procedures, such as the various types of statistical estimation, may perhaps admit of this kind of analysis, but the more fundamental kinds of scientific induction are dialectical, because they involve evolution of scientific concepts. The logic of induction can only be understood when the dialectical interplay between concepts and empirical data is taken into account.

In any form of dialectical thinking, an essential part is played by the cultural tradition, which comprises both existing knowledge and the concepts which provide the articulation of this knowledge. The object of thinking is not a world (whether the actual universe, or a "world" of ideas like that of pure mathematics) extraneous to the reflecting mind, but a world as seen through and embodied in a particular cultural tradition. The concepts of the cultural tradition are thus part of the mind's equipment and at the same time part of the structure of the known world, and they are able therefore to be both personal and impersonal together. The cultural tradition itself is consolidated by such agencies as education, discussion, and publication of the results of research—and even more fundamentally by the natural development of the language, conceptual as well as linguistic, of the society to which the tradition belongs.

Mathematics, then, is a process of thinking which is locally deductive, but dialectical when we take a sufficiently wide view of it; and recognition of its dialectical nature provides the key to the solution of some of the problems facing the philosophy of mathematics. We can see the kind of difference that is made when mathematics is related to dialectical logic if we look at the difficult subject of contradictions from this point of view. When mathematics is thought of in deductive terms, occurrence of a contradiction can only be taken as a sign of failure. If a formalized theory contains two contradictory propositions it is valueless as a deductive system,

because all propositions are then deducible within it; and for this reason the chief aim of the Formalists was to establish the fact that mathematics is free from contradiction. But looked at dialectically, contradictions, although always danger signals, are instrumental in the growth of knowledge. To the mathematician, discovery of a contradiction in his subject may be unpleasant, and at best it is a challenge; but the historian of mathematics is able to see positive value in mathematical antinomies and their eventual resolution. When an essential contradiction is found in mathematics, that is to say one that is not produced by a mistake and that cannot be explained away, this is an indication that radical revision of concepts or of accepted principles of argument is necessary. In mathematics, knowledge is ordinarily extended by generalization, concepts familiar from older parts of mathematics or drawn directly from more concrete experience being applied in more and more general situations or to more and more idealized subject-matter. The process can often be carried very far indeed, but there may eventually come a time when the existing concepts cannot stand any more generalization, and when the attempt to extend them further leads to inescapable contradictions. When this happens it shows that the concepts must be reconsidered in order to make further advance possible without jeopardizing the security of the whole structure of mathematical knowledge; and such renewal of the conceptual apparatus of mathematics is sometimes the prelude to major developments. Thus the contradictions that once arose out of uncritical manipulation of infinite series showed that logical clarification of infinite processes was necessary; and Russell's discovery of the paradox of the class of all classes that are not members of themselves was the beginning of much of modern logic. But such clear-cut logical contradictions are comparatively rare, and reconsideration of basic concepts is more frequently brought about by contradictions between abstract theory and observational data (as has been the case repeatedly in physics) or between theory and intuition (as with Pythagoras's discovery that the diagonal of a unit square is a magnitude which cannot be measured by any rational number).

Having given an outline of the conception of mathematical thinking that seems to me to be the one called for by the present state of knowledge in the philosophy of mathematics and by the chief outstanding problems in this realm, I must show, in conclusion, how the topic with which I began, namely mathematical rigour, is illuminated by the discussion. Recognizing the fact that there is more in thinking that comes within the purview of logic than ratiocinative argument, and that deductive logic must be taken in conjunction with dialectical logic if a full theory of inference is to be possible, we can now see that rigour in mathematical reasoning is a much less simple thing than is often supposed. There is rigour of demonstration and also rigour of dialectical development, and the two are by no means the same. As far as the first of the two processes of thinking is con-

cerned, the process of organizing knowledge within a given framework of ideas, rigour does not now present any very great problem—or at least we can say that this is one of the problems in philosophy that come nearest to having been solved. The kind of rigour in question is deductive rigour, or strict conformity to the pattern of inference that was first described by traditional logic. The work of logicians from Aristotle onwards, and especially the creators of symbolic logic, has made knowledge of this logic one of the best-grounded constituents of our cultural tradition. Mathematicians know very well what they mean when they describe a theory as rigorous, and logicians give a theoretical account of demonstrative rigour which is in very satisfactory agreement with this practical knowledge. Strictness of logical argument is the form in which rigour most usually shows itself, and the ideal of demonstrative rigour is in practice the main operative control in mathematical research; but the ultimate source of validity of mathematical knowledge must be looked for elsewhere, in the nature of dialectical thinking. In other words for the purposes of philosophy we have to conceive of rigour in dynamical not in statical terms—as the rigour of a *process* which yields knowledge, not of a system of propositions which summarize a particular *state* of knowledge.

Dialectical rigour is almost wholly unanalysed, and its very existence as a kind of rigour different from, but of at least equal importance with, deductive rigour seems to be universally overlooked, at any rate as far as mathematical thinking is concerned. But examination of the nature of dialectical rigour offers the only hope of escape from the impasse reached by both Logistic and Formalism, and it is therefore the most urgent task facing the philosophy of mathematics. The task does not exist only for this particular application of philosophical method, but also for philosophy in general, and it is a necessary preliminary to any serious examination of the logic of scientific method and of inductive reasoning. When the undertaking is successfully completed, we may hope to have an analysis of mathematical reasoning that gives solid philosophical support to the profession of faith with which one of the most representative of modern mathematicians has embarked on the compilation of a vast new *Elements* :

" En résumé, nous croyons que la mathématique est destinée a survivre, et qu'on ne verra jamais les parties essentielles de ce majestueux édifice s'écrouler du fait d'une contradiction soudain manifestée ; mais nous ne prétendons pas que cette opinion repose sur autre chose que sur l'expérience. C'est peu, diront certains. Mais voilà vingt-cinq siècles que les mathématiciens ont l'habitude de corriger leurs erreurs et d'en voir leur science enrichie, non appauvrie ; cela leur donne le droit d'envisager l'avenir avec sérénité ". [N. Bourbaki : *Éléments de Mathématique*].

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LANGUAGE-GAMES

In reading Wittgenstein's *Philosophical Investigations* one is struck by the frequent occurrence of the phrase ' language-game ', which evidently is no mere figure of speech, but is intended to be taken very seriously, and which yet one can hardly suppose is to be understood in a completely literal fashion. Certainly no one would suppose, off-hand, that a language could be regarded literally as a game. What follows, then, is, among other things, an attempt to carry out a philosophical investigation, somewhat in the fashion of Wittgenstein's own investigations, with a view to bringing out and considering critically the way in which the phrase is actually used, and to what end, in the above-mentioned work.

Don't sit and try to think it out abstractly, the author admonishes his readers, but really " look and see " how a word or phrase is actually used in any given context, and that procedure will reveal what the word or phrase substantially means in that context. " For a *large* class of cases—though not for all—in which we employ the word ' meaning ' it can be defined thus : the meaning of a word is its use in the language ". As a special kind of case, the " meaning of a name " may be explained simply " by pointing to its bearer " (sec. 43).

Ostensive and other definitions, however, are of limited value and should not be regarded as revelatory of meaning in any specially profound or final sense. Above all, it would be a serious mistake to suppose that it is the function of definitions to reveal the *essence*, the one presumed basic, fixed and unalterable meaning, of any word or phrase. Rather, the proper, i.e. the empirical, way to discover the meaning of the word ' good ', for example, is to turn to the various " language-games " in which it occurs (is used), and upon doing so one finds that in reality it has not just one but a whole " family " of meanings (sec. 77).

And just so in the cases of the words ' game ' and ' language ' themselves ; there are indefinitely various games and languages, in which it were vain to seek for something basic to all. Rather, what one discovers in each case is a very complex network or web of more special and more general similarities, differences and relationships of all kinds, such as those pervading a human family (sec. 66 ; cf. secs. 23, 67, 108, and *passim*). Thus there is a whole family or world of games, for example, which goes to make up an indefinitely changing and growing context in which any odd or new game finds its place, while the meaning or use of the word ' game ' presumably alters accordingly. Language seems to recognize this state of affairs to some extent in the common remark that to such and such a word various

'shades of meaning' may be ascribed. Or take the word 'insanity', for example. In the context of legal terminology it means one thing, and in the terminology of psychiatric medicine it means something rather different.

All of this squares well enough with empirical observation of the functioning of language in ordinary cases. But one basic reason for using the phrase 'language-game', instead of the word 'language', Wittgenstein seems to suggest, is in order to make it easier to avoid certain serious errors which beset much of contemporary philosophy.

One such error, for example, finds embodiment in the concept of an ideal language which once made a strong appeal to the author of the *Tractatus* himself. But just as there are games and games, but no one game *par excellence*, no ideal game examination of which will reveal a supposedly hidden essence of game-as-such, so there is no ideal language answering to a pure, unearthly, sublime logic, the very *essence* of thought-as-such. By certain misguided and confused philosophers, nevertheless, "thought is surrounded by a halo". "Its essence, logic, presents an order, in fact the *a priori* order of the world . . . *prior* to all experience; no empirical cloudiness or uncertainty can be allowed to affect it. . . . We are under the illusion that what is peculiar, profound, essential, in our investigation, resides in its trying to grasp the incomparable essence of language. That is, the order existing between the concepts of proposition, word, proof, truth, experience . . . a *super*-order, between . . . *super* concepts. Whereas, of course, if the words 'language', 'experience', 'world', have a use, it must be as humble a one as that of the words 'table', 'lamp', 'door'" (sec. 97).

Thus the idea of a so-called logical calculus, as something *to which ordinary language only approximates*, is based upon a radical misunderstanding. It may seem as if such a calculus were an *ideal* language—something "better, more perfect, than our everyday language; and as if it took the logician to show people at last what a correct sentence looked like" (sec. 81). But this would be to forget that *we construct* the calculus, that it is man-made, which can only mean that it serves some specific, limited purpose; and the better it serves this purpose, just so much it is the less fitted to serve other limited, no less legitimate purposes. In this respect, at least, a logical calculus closely resembles a game. Like a game, it has its specific rules, and like a game, it has its 'pieces' (cp. chessman, cards, 'propositions'), which are to be moved, manipulated, according to those specially prescribed, man-made rules.

In fact, not only a symbolic calculus, but more ordinary, less highly specialized languages, such as those of the professions, perhaps, share on this view many of the characteristics of games.

The result of such considerations is not only greatly to reduce the over-all significance of symbolic logic; there are numerous specific implications bearing on the details of logical theory, as well. Thus, to say, for example, that "a proposition is whatever can be true or false" on this view merely

" amounts to saying " that " we call something a proposition when *in our language* we apply the calculus of truth functions to it " (sec. 136). Hence one sees that " the use of the words ' true ' and ' false ' may be among the constituent parts of this particular game ; and if so it belongs to our concept ' proposition ' but does not ' fit ' it ". It would be a great mistake to suppose that one has a fixed concept of true and false, which could be used to determine in a definitive manner, so to speak, what is and what is not a proposition.

Nor does Wittgenstein look with favour upon the various concepts of ' meta '-this and ' meta '-that, so frequently injected into current discussions. There is, for example, so he asserts, no need for a second-order philosophy in order to be able to use the word ' philosophy ' ; " it is, rather, like the case of orthography, which deals with the word ' orthography ' among others without there being second-order " (sec. 121). Just so, one assumes, the present paper is an ' investigation ' like any other, though it happens this time to be an investigation directed on some points in the book entitled *Philosophical Investigations.*

Similar important results issue from the author's investigations into the use of words in psychology—so important as to call for a complete overhaul of that subject, if the results of the investigations are generally to be upheld. It seems that most of what currently passes for psychology is hardly more than a tissue of confusions, due to failure to observe the workings of language. What most people do, Wittgenstein charges, instead of observing the actual use or uses of the word ' understanding ', for example, is to presuppose that *the understanding* is something ' mental '—a mental process or faculty perhaps, that has to be sought for by some abstruse psychological procedure.

However that may be, the further implications for philosophy itself, and as such, of Wittgenstein's investigations, are what is of principal concern at this point.

For the sting of Wittgenstein's attack upon traditional ways of " doing philosophy ", an attack made possible by and conducted in terms of the techniques of the language-game, is the claim that, if successful, it will cause many a grandiose philosophical theory to topple into rubble (sec. 118). Observe, he says in effect, how philosophers use such key words as ' knowledge ', ' being ', ' object ', ' I ', ' name ', ' proposition ', in their misguided endeavours to " grasp the *essence* of the thing " ; and then ask yourself, " is the word ever actually used in this way in the language-game which is its original home ? " What one does in this way is " to bring words back from their metaphysical to their everyday use " (sec. 116).

The implication here seems clearly to be that " metaphysical use " is misuse, because it is non-empirical ; and in fact that what usually passes as metaphysics is simply abstract speculation, which depends upon, or is tied up with, this abuse of language. " What we are destroying ", Wittgenstein declares in a statement that he would presumably apply to much

if not all of traditional metaphysics as well as elsewhere, " is nothing but houses of cards, and we are clearing up the ground of language on which they stand " (sec. 118).

Similarly, the interminable disputes between Idealists, Solipsists, and Realists arise, at least in large part, as Wittgenstein sees it, from failure to follow his simple prescription. Both sides to such a dispute invariably attack each other's language ; adherents of the one side attack the " normal form of expression " as if it were a mere statement ; while their opponents defend it " as if they were stating facts recognized by every reasonable human being " (sec. 402). Nominalists, for their part, " make the mistake of interpreting all words as *names* ", instead of describing their actual use (sec. 383). Thus philosophers who, one would think, would be models of linguistic deportment, are perhaps guilty of the greatest, most serious and far-reaching lapses from the perspicuous use of words. No wonder, therefore, that philosophers get into such muddles and disagreements when discussing any issue or attempting to solve any problem.

Nor can one safely turn *all* philosophical problems over to those present-day philosophers who rely upon analysis, as the *one* method to be used in the solution of all such problems. For analysts too easily fall into the grievous error of tacitly assuming that *the* end result of an ideally complete analysis would be to come upon something absolutely simple and ultimate—" atomic facts ", perhaps. Whereas actually analysis is only one method among others, and simplicity (one gathers) is in Wittgenstein's latest view a relative term, not an absolute one.

In fact, " there is not *a* philosophical method, though there are indeed methods, like different therapies " (sec. 133). And in " doing philosophy " one is actually acting very much as a physician acts in applying a therapy to a disease or illness. When one pursues an investigation in this spirit, one finds that a philosophical problem, say the problem of knowledge, instead of being solved in virtue of some abstruse but unconvincing, over-all theory of knowledge, will simply have disappeared, just as the physician's therapy *cures* a disease. What one should do, presumably—the therapy the philosophical physician should follow—would be to " look and see " how ' know ' and ' knowledge ' are actually used in various contexts, and in this wise gradually acquire the vision or insight necessary to deal with the problem or problems. " Problems are solved (difficulties eliminated), not a *single* problem " (sec. 133).

Philosophy neither explains nor deduces anything. When complete clarity is attained, or to the extent that it is attained, the philosophical problems " disappear " (secs. 126 ff.). The problems can be made to disappear, not by advancing any kind of a theory, but by thus " looking into the workings of our language . . . in such a way as to make us recognize those workings : *in despite* of an urge to misunderstand them " (sec. 109).

The end result of " doing philosophy ", then, is literally to bring about the disappearance of philosophy ?

Well, yes and no.

Yes, in so far as philosophy is looked to for an explanation or comprehensive theory of the nature of things, such as the rival theories of Idealism, Realism, and Nominalism profess to offer, for example.

No, if only philosophers will follow Wittgenstein's guidance, as exemplified in the *Investigations* and, presumably, in other works yet to be published. For as long as language continues to function, just so long will there be problems to be solved—philosophical diseases to be cured by administering the appropriate therapies. Language, philosophy itself, is an activity; it is not a static, theoretical structure, a system of ideas, explanatory in some lofty, abstruse, metaphysical fashion of ' Reality '.

" Philosophy may in no way interfere with the actual use of language; it can in the end only describe it " (sec. 124). This must be taken in a perfectly general sense, for philosophy " cannot give it [i.e., language] any foundation, either ", but instead simply " leaves everything as it is "; ". . . no mathematical " (and hence, one gathers, no physical, biological, psychological . . .) " discovery can advance it ". In particular, any so-called leading problem in mathematical logic " is for us a problem of mathematics like any other "—only that and nothing more.

It is, indeed, highly illuminating to look upon Wittgenstein's way of doing philosophy as, among other things, a vigorous revolt against the excessive pretensions of symbolic or mathematical logic. And with this critical attitude the present writer, for one, is in complete sympathy, witness his own criticisms of that species of logical theory. But unfortunately one extreme tends to generate its opposite, and it seems as if Wittgenstein had not been entirely successful in resisting this natural tendency.

Recognizing the futility of reliance on a so-called ideal language or set of symbolic devices and techniques for the solution of philosophical problems—more particularly of logical problems—the author of the *Tractatus* and of the *Investigations* has now apparently concluded that what he calls " methods " devised on the basis of certain features supposedly inherent in " ordinary language " will serve the purpose better.

Not that he is proposing mere feats of verbal legerdemain, though a superficial reading of the later work might lead one to that mistaken inference. One thing he is emphasizing, rather, is that philosophers must realize more clearly than is too often the case that language is an instrumentality which must be handled with extreme care if serious errors in philosophy are to be avoided. And it is precisely upon this conception of language as an instrumentality that his theory of meaning is supposedly based. In terms of this theory of meaning, it follows in turn that ' essence ', for example, is a word to be avoided like the plague.

Reserving comment on this last specific detail for later, what calls for attention here is that the tendency towards extremes has not, in fact, been

fully resisted. For it is still language which occupies the centre of the stage, only now it is "ordinary language", instead of an "ideal language", upon which so much attention is being focussed. And just as Wittgenstein's criticism of the ideal language was that it was too narrow for philosophical purposes, so now it appears that his own antithetical conception is too wide. Upon reading the *Philosophical Investigations* one finds that it is concerned with a very extensive range of topics, ideas and problems, some of which are in one way or another philosophical, but many of which have little or nothing to do with philosophy in any direct or significant way.

This, indeed, is what one might anticipate, seeing that, in so far as the "therapies" proposed are concerned, there is nothing inherent in them which limits their application to any special field. The language-game philosopher interposes his objections and criticisms, not only against the ideas and theories of other philosophers, but equally freely against specific psychological ideas and theories, for example, with no sense of there being any dividing line between philosophy and psychology whatsoever. And if this is permissible so far as the domain of psychology is concerned, why isn't it permissible with respect to the domain of any other special science, or wherever language is employed for any purpose? Just as Bacon took all knowledge for his province, so Wittgenstein in a sense takes all language for his.

The point is that solely on the basis of a general theory of meaning, Wittgenstein's or any other, there simply are no criteria available whereby a philosophical issue or problem can be distinguished, as such, from an issue or problem of any other sort, provided only that language is somehow involved. On such a basis alone no significance *can* be attached to philosophy, save to carry on such investigations as those to which Wittgenstein devotes himself. But obviously the fact, of itself, just as clearly implies that something more, something of the nature of a more substantial basis, must be provided actually to cope with those issues which, whether rightly deemed philosophical or not, have as a matter of fact occupied the attention and consumed the energies of thinkers who have regarded themselves as philosophers in all ages up to the present.

To put the same point in another way, from the very fact that language is an instrumentality it follows that two questions, and not just one, naturally arise. Just as a carpenter, for example, has to learn, not only *how* to use the tools of his craft, but also for what specific purposes they are used, so in the case of language. And in the one case, quite as in the other, it is the purpose to which the tool is put that is the decisive factor in its functioning. That is to say, to use language as a tool of philosophy, as distinguished from its uses in any other way, one must know what the specific purpose of philosophy is, and this purpose cannot be defined solely in terms of the general alleged characteristics of the 'how' of language alone. The purpose of any tool cannot be reduced to the 'how' of its use.

It is primarily with the ' hows ' of language, with a minimum of attention directed upon the purposes, that, for example, the study of general linguistics concerns itself. Of course the two questions are interrelated, but they can be distinguished, for the legitimate purposes of linguistics itself, witness the numerous works which have been and are being produced in that field.

But one of the striking things about many of the recent speculations and theories concerning language by philosophers, more especially by logicians and semanticists, and about Wittgenstein's *Investigations* also, is the fact that they pay too little regard to the significance of the distinction n question or to the findings of experts in the field of linguistics, but instead prefer to go their own empirical way, quite as if this resource were not available to them.

Thus it is that some more or less arbitrary, more or less special, more or less implicit, presuppositions actually determine the results attained by such philosophers, logicians and semanticists from their quasi-empirical gropings into the workings, the modes of functioning of language. As Wittgenstein himself pointed out, in the passage quoted above, it is the will-o-the-wisp of an " ideal language ", which is decisive in some instances of this sort.

Yet Wittgenstein's own procedure is of essentially the same sort. His presupposition is, *in effect*, that since a general theory of meaning, such as his own, does not of itself specify any sort of problems as specially philosophical, therefore there are no *so-called* philosophical problems which cannot be made to " disappear " by the wonder-working therapies devised on the basis of that theory. The only general purposes served by the use of language are such as those of expression and communication.

But any philosopher does, in fact, either explicitly make known his own conception of the purposes or aims of philosophy or implicitly reveal them in the course of his work. And these purposes, this conception of the task of philosophy, inevitably determine the way in which the instrumentality which is language is employed in seeking to realize those purposes and to wrestle with the problems into which the task differentiates itself in the eyes of any given philosopher. That is what makes it so pertinent to observe that seeking to understand a Bergson, a Whitehead, or a Russell is like learning to read a new language—so specifically is a philosopher's way of expressing himself tied up with the ideas and theories which he is engaged in expounding.

If, in order to achieve his philosophical purposes, a Bergson or a Whitehead finds it necessary to define his terms, i.e. to use certain words in a sense peculiar to himself and not in any ordinary, everyday sense, that is his privilege, just as it is the scientist's, which cannot be legislated away from him. And especially not in terms of a theory of meaning to which he does not subscribe.

This general consideration is applicable to Wittgenstein's writings as

to those of any other philosopher. On this basis alone, for example, can one understand why he regards it as the business or purpose of philosophy, not to explain or offer a theoretical account of the nature of things, but simply to describe whatever is or is not the case. " We must do away with [cause to disappear] all *explanation*, and description alone must take its place " (sec. 109). When the veil which philosophers have cast over things, in their mistaken attempts to explain them, and by their abuse of language, has been cast aside, there will be nothing to obscure a perfect vision, nothing to theorize about.

" The concept of a perspicuous representation ", Wittgenstein asserts, " is of fundamental significance for us. It earmarks the form of account we give, the way we look at things " (sec. 122).

To this assertion he appends, without answering it, the parenthetical question, " Is this a *Weltanschauung*? " The proper answer is, of course, that of itself it is nothing of the kind, but, rather, a general criterion applicable equally to all discourse and not merely to such as is specifically philosophical.

To put the matter in another way, there is nothing left for philosophy to do save " description alone ", on Wittgenstein's view, simply because that is the only task that can be prescribed for it in terms of the language-game theory alone and as such. Little wonder that on this view a minimum of positive merit can be ascribed to the work of other philosophers, since they all seek to adapt language, in one way or another, to what they severally regard as the aims of philosophy, rather than to adapt philosophy to the 'how', the *alleged* mode of functioning, of language.

There are, however, other general " remarks " scattered here and there in the *Investigations*, of which their author modestly observes that they " yield at best what looks like the fragments of a system " (p. 228e). And it is indeed true that these fragments, and these fragments alone, serve as a basis, however slender, for constructive as distinct from critical or destructive philosophical purposes. Save for them, the *Investigations* would consist wholly of sometimes acute, sometimes less convincing, criticism of this, that and the other idea or theory of a philosophical or psychological or linguistic sort.

Several of the " fragments ", for example, call attention to a concept by which the author evidently sets great store, namely the concept of " forms of life ". Thus he explains that ". . . the term 'language-game' is meant to bring into prominence the fact that the *speaking* of language is part of an activity, or of a form of life " (sec. 23). Again, " to imagine a language means to imagine a form of life " (sec. 19). When human beings agree in the language they use, they agree in a form of life (sec. 241). And last, but not least, " what has to be accepted, the given, is—so one could say—forms of life " (p. 226e).

Unlike the concept of a perspicuous representation, which may perhaps be taken simply as a general demand for clarity in linguistic expression,

these statements—especially the last one—certainly would pass for metaphysical in the estimation of most philosophers. " Forms of life " evidently play the role, in Wittgenstein's own language-game, of a metaphysical ultimate in terms of which the functioning of language is to be understood. They must be *accepted*, and they are *given*—that is to say, they are regarded as an indubitable basis, a rock of certainty, like the Cartesian *cogito*. It is in fact obvious, that the conception of philosophy as sheer description logically requires completion in the idea of something of this sort. Without some such anchorage description would be utterly devoid of *philosophical* import. Only on the ground of postulation of an ultimate factuality does the conception of philosophy as description make any sense at all. *Sheer* description, were it actually feasible, would spell sheer vapidity.

That this is a heavy price to pay for the privilege of carrying on philosophical investigations of the sort undertaken by Wittgenstein, it is not difficult to show. The quest for certainty in philosophy, the search for some specific, indubitable, metaphysical ultimate, has been a long and persistent one, and it has invariably issued in failure. Is there any more reason to suppose that success will crown this recent endeavour than any of the others ? Rather, does not this impressive series of failures eloquently teach that the search itself is a mistaken one ?

However that may be, there is further evidence, based on other " fragments ", tending to cast doubt on the soundness of Wittgenstein's doctrines. Consider, for example, the concept of games, languages etc., as making up a " family " of interrelated members coupled with the emphatic rejection of the idea that there is anything that can rightly be called the hidden *essence* of games, or languages, or numbers and so forth.

What is noteworthy in this case is the implicit theory of universals, which, surprisingly enough, somewhat resembles the well-known theory of the concrete universal. Negatively, any such theory rejects as meaningless patter the controversies about ' universals ' *and* ' particulars ' *and* their relations, on the ground that such controversies ascribe a meaning to those terms for which there is no justification—for which, in Wittgensteinian parlance, " ordinary language " offers no support. There is a prior reification or hypostatization of the terms in question, which actually renders the problem of their relation logically insoluble—such, in non-Wittgensteinian parlance, is how the criticism might be expressed.

So much for the positive merits of this conception of a " family ". Perhaps it might be said to represent a sort of middle ground between traditional realisms and nominalisms. Unfortunately, however, there are serious weaknesses to set over against these merits. Aversion to the notion of *essence* carries Wittgenstein so far in the direction of subjectivism and relativism that he is apparently unable to see that there is something important about games and something important about languages (even if these somethings are not describable as fixed and unalterable essences)

which makes his use of the phrase ' language-game ' seriously misleading instead of positively enlightening.

For it is certainly the case that languages and games differ profoundly, and even if the difference cannot be formulated in terms of difference of essence, it can be formulated in other terns. In other words, there are certain characteristics, certain features—if you like, certain criteria—which one gradually learns to regard as trustworthy, subject to modification with the growth of experience and knowledge though they may be, and not reducible to a single, fixed and unalterable essence, which yet distinguish games from other things, in a sufficiently unambiguous manner.

Among other things, a game, unlike a language, is something one can look upon from the outside, something one can comment upon, and toward which one can adopt the attitude of an impartial spectator, without becoming in any way involved in it oneself. In the case of a game, one can " look and see " just what is transpiring ; it has a limited purpose and a prescribed rationale lending itself easily to a " perspicuous representation ". So far as the game is concerned, the ' meaning ' of the pieces and implements is determined by the uses to which they are put in the course of the game. In other words, playing a game always involves the manipulation (the ' use ' in the sense of manipulation only) of ' pieces '(chessmen, cards, balls . . .) and of the tools of the game.

No game is of vital importance ; it is least of all a " form of life ", but is rather an unessential activity, lacking a serious purpose.

In all of these and numerous other significant ways games differ profoundly from languages. Only the operation of a symbolic calculus bears some remote analogy to the playing of a game, and it may well be that his early preoccupation with symbolic logic tended to encourage Wittgenstein in the erroneous belief that such an analogy could be generalized so as to cover all language, and thus justify coining the phrase ' language-game '.

No ; a game is not, in any sense, an instrumentality, such as language essentially is. Thus one can hardly imagine a more inappropriate linking of terms than the one incorporated in the phrase ' language-game '. Instead of serving any useful or enlightening purpose, it can only tend to confusion and obscurity. In particular, a theory of meaning based, in part at least, upon a presumed analogy between games and languages has nothing to commend it, and everything to justify hesitation in adopting it.

What in fact saves the *Investigations* from consisting of a mere playing with words or of feats of verbal legerdemain, is precisely the fact that the work does indeed, as its author says, contain certain " fragments " of a philosophy—fragments couched in words whose meaning is not determined or determinable by the criteria of meaning specified in that work. That is to say, Wittgenstein professes actually to know, and to be able to express in words revealing that knowledge, what philosophy is. He is not simply asking and attempting to answer the question how the word ' philosophy '

is used by other philosophers with whom he disagrees. Were he to follow his own prescription, his own therapy, in this case, namely to " look and see " how those other philosophers do use the word in their respective " language-games ", he would quickly discover two important things : one, that for them it had an entirely different meaning from that which he bestows upon it ; and thus, that his own theory of meaning renders him powerless to justify this way of doing philosophy and rejecting other ways. Obviously, a philosophy which condemns the larger part of the work of other philosophers for their alleged abuses of language, and which yet can offer only the most meagre reasons in support of its own criteria, can hardly expect to win many converts to its own way of " doing philosophy ". More generally, one may say that any philosophy which adopts a negative attitude of rejection toward other philosophies past and present, and which can therefore only regard those other philosophies as in principle mere intellectual perversities, by that very fact reveals a serious misunderstanding of what philosophy is. So far is it from being the task of philosophy to bring words back from their metaphysical to their everyday use (see above), that it would be more in accord with actuality to say that one important task of philosophy is to reveal the latent or implicit metaphysics inevitably present in any serious intellectual work. As Emile Meyerson once observed, "*L'homme est métaphisicien tant qu'il respire* ". And the very first test that may be made of any ' new ' way of doing philosophy, is to inquire as to what positive significance it does or can accord to the history of philosophy. If it sees that history as consisting in the main of a series of failures to be deplored from the point of view of the superior insight now at last granted to mankind, then that of itself is enough to throw the greatest suspicion on the value of its own exclusive claims.

It may be that such observations do not apply to Wittgenstein, and that to intimate that they do is to do him a rank injuctice, but it is obvious that there are considerable grounds for suspicion that they do apply.

Suppose, for example, that one were to undertake a philosophical investigation of ' good '. According to Wittgenstein this investigation should assume the form of an inductive or quasi-inductive examination of the way the word ' good ' is used in all sorts of ordinary cases and contexts, thus gradually revealing the " family " of meanings it comprises—presumably an ever-growing and changing family. Incidentally other philosophers might contribute something to this investigation, but much of their work would be thrown out or disregarded entirely. From Plato on, most philosophers would certainly prove guilty in Wittgenstein's eyes of attempting to ascribe a " metaphysical " meaning to the term, or of seeking for an essence of good, than which nothing could be in his eyes more erroenous.

But will the language-game procedures really help much in any attempt to characterize the good life for man, or enable one to fix the meaning of the term in moral and religious contexts ? Will not the significance or

weight which any philosopher ascribes to the family of meanings discovered by induction, say, vary in accordance with many considerations, and in particular in accordance with the basic metaphysical presuppositions which he inevitably brings to bear? And in view of the innumerable uses of such a word in common speech and writing will not a selective set of examples, based upon anterior philosophical considerations, colour the findings ultimately attained?

Suppose you have formed a "perspicuous representation", so far as the use of the term 'good' is concerned, in various language-games in which it occurs. What philosophical problems will "disappear" as a result? How can philosophers be persuaded to alter the formulation of problems in which this term has a place in their thinking, unless, in addition to what the specific "investigation" may reveal, they are willing to substitute for their own metaphysical presuppositions those which seem so inevitable to Wittgenstein?

New light thrown on certain issues, perhaps; certain questions posed in a new way, together with proposed new answers, yes. But if there is any philosophical misconception, it is surely the dream that any one line of thought, any one way of formulating, not to mention solving, the problems of philosophy, will ever prevail over other formulations. It is, in fact, very close to nonsense to hope for the definitive solution of any basic philosophical problems, and it betrays a very mistaken idea of what philosophy is to suppose that any such solution is actually attainable. The question of what constitutes the good life for man, for example, has been posed over and over again from the very beginning, and will continue to occupy philosophers to the end of time. And so with all the other well-called "persistent problems of philosophy".

Such considerations are so elementary that it is hard to see how they can have escaped recognition by anyone who has given the least attention to the history of philosophy, or who has ever asked himself as to the positive import of that history.

Thus, while a philosophical study of language, especially one more inclined than most current studies to draw upon the contributions of qualified experts in linguistics, may well be of great importance, it is by no means the only, or even the most important, prerequisite for constructive philosophical undertakings. Perhaps it may be said that the author of the *Philosophical Investigations* and his followers are as fully aware of such considerations as anyone else, but one searches in vain through the mazes of that work for any indication of such awareness. In any event, one must do something more and something other than simply to play any sort of a language-game, if one is really to come to grips with the philosophical issues raised by that work, and to evaluate the philosophical doctrines implicit therein. And this incontestable point is enough, of itself, to show that whatever the positive merits of the *Investigations* may be, causing the disappearance of the basic problems of philosophy is not among them.

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THE FUNCTIONS OF MORAL DISCOURSE[1]

The purpose of this paper is to develop and defend a certain conception of the characteristic functions of morality. I intend to do this by an analysis of the uses or functions of moral language. It is my conviction that the nature of moral evaluation can most readily be understood if the purposes or jobs of moral utterances are clearly understood.

I

Moral language is obviously a part of ordinary language. It is not a technical language like the language of physics or the language of art criticism. It is not a language for which we must have a special *expertise* in order to understand it, though indeed to talk *about* it and make generalizations about it does require a special *expertise*. Moral language is the language we use in verbalizing a choice or a decision; it is the language we use in appraising human conduct and in giving advice about courses of action; it is the language we use in ascribing or excusing responsibility; and finally, it is the language we use in committing ourselves to a principle of action.[2] Moral language is a *practical* kind of discourse that is concerned to answer the questions: 'What should be done?' or 'What attitude should be taken toward what has been done, is being done, or will be done?' Moral language is most particularly concerned with guiding choices as to what to do when we are faced with alternative courses of action.

As a form of practical discourse, morality functions to *guide* conduct and *alter* behaviour or attitudes. As Hume, who was quite aware of this practical function of moral discourse remarks, moral language serves to "excite the passions".[3] Taking this remark from its eighteenth century idiom we might say that the language of morals serves to motivate action and to alter volitions.

There is, however, a crucial ambiguity in the above characterization. As Falk and Hare have made us aware, there is at least a *prima facie* distinction between *telling* someone what to do and *getting* him to do it. That is, there is a distinction between *guiding* action and *altering* behaviour or "exciting the passions". A person in the capacity of a moral adviser may tell someone what he ought to do. He may show him what is the best

[1]Earlier versions of this paper were presented to *The Southern Society for Philosophy and Psychology*, Asheville, N.C., and *The Creighton Club*, Casanovia, N.Y., on 30th March 1956 and 18th April 1956 respectively.

[2]P. H. Nowell-Smith, *Ethics*, Chapter I. And Nowell-Smith, "Psycho-analysis and Moral Language," *The Rationalist Annual*, 1954, p. 36.

[3]David Hume, *Treatise*, Book III, Part I, Section I.

course of action to follow in a given circumstance. But, he may do all these things and still *not* succeed in getting him to do the act.

Nonetheless, it is important to note the close *link* in practical discourse between *telling* and *getting* or between *guiding* and *goading*. If I, as a moral adviser, tell A this is the best course of action and A agrees that this is the best course of action then I need not ask A if he is going to *try* to do it or *set* himself to doing it. We can say that in a quite *ordinary* sense of 'implies',[4] A's saying that it is the best course of action implies that A will *try* to do it, everything else being equal. Principles of guidance or moral advice characteristically function to alter dispositions and to prod us to certain courses of action. A principle of guidance which never did this would be a very curious principle indeed.

Moral advice serves directly to guide action; that is, it serves to tell us which of several alternative courses of action we *should* choose. But principles which could not serve to alter behaviour or redirect attitudes towards certain types of behaviour could hardly count as 'principles of guidance'. (This is not just a practical matter but follows from the *use* of 'principles of guidance'.)

A somewhat stronger point can be made. Only those 'principles of guidance' that *generally* function to alter behaviour are genuine principles of guidance. If a 'principle of guidance' never served to alter behaviour or dispositions to action it would not be regarded as a 'principle of guidance' in the fullest sense but merely as a maxim which could serve, but did not in fact serve, as a principle of guidance. It is part of the role of moral discourse to alter behaviour and alter dispositions to action. Any principles which do not do this, but only logically could do this, are not regarded as moral principles in the fullest sense of the word.

Without denying the distinction between *guiding* and *goading*, I shall say that the characteristic functions of morality are to guide conduct *and* to alter attitudes or dispositions to action.

II

This description of the characteristic functions of the language of morality is not sufficient. Let us further examine the functions of moral discourse. Not all practical discourse is moral discourse. Not all conduct is moral conduct and not all advice or appraisal of conduct is moral advice or moral appraisal. Nor are all attitudes or dispositions to action moral attitudes or moral dispositions to action. To say that moral discourse functions to guide conduct and alter behaviour is very much like saying that swear words are used to express anger or that the language of cheerleading is designed to make people yell. Swear words do express anger and cheerleading language usually does prod people to yell, but these are hardly adequate descriptions of the functions of the language of swearing or the

[4] See P. H. Nowell-Smith on 'contextual implication' in his *Ethics*, Chapter 6.

language of cheerleading. Similarly the above description of morality is hardly a sufficient description of the functions of morality.

In further describing the characteristic functions of the language of morality I am going to develop the descriptions of the function of morality given by Toulmin and Baier. While I am not in complete agreement with the way that either Toulmin or Baier have developed these notions, I believe their basic characterization of the functions of morality is correct. I shall state their basic characterization of the functions of morality and then try to explicate it by answering anticipated objections.

Toulmin and Baier speak boldly of the " function of morality ". Some may be disturbed by this and think that Toulmin and Baier have shifted away from linguistic or conceptual analysis altogether and have started talking about the referent of the sign rather than about the sign itself. For many reasons, more or less irrelevant to my argument in this essay, I feel that making this semantic distinction in contexts of this sort is more confusing than enlightening. However, I have consistently, I trust, spoken of the ' language of morals ' rather than of morals. Toulmin and Baier, however, speak quite directly of the function of morality. However, I believe they are ' getting at ' the same considerations that I seek to explain by talking of the uses or meanings of the phrase ' the functions of moral discourse '. Keeping in mind the above-mentioned semantical distinction, I shall present Toulmin's and Baier's claims in their own mode and then, when returning to my own development of their argument, I shall speak of the uses or the functions of moral language.

I shall turn now, for a moment, to Toulmin's and Baier's own analyses.

In his *Examination of the Place of Reason in Ethics* Professor S. Toulmin makes several statements of the characteristic functions of morality or (as he calls it) of ethics.

1. The function of ethics (provisionally defined) is " to correlate our feelings and behaviour in such a way as to make the fulfilment of everyone's aims and desires as far as possible, compatible " (p. 137).
2. " Ethics is concerned with the harmonious satisfaction of desires and interests " (p. 223).
3. ". . . we can fairly characterize ethics as a part of the process whereby the desires and actions of the members of a community are harmonized " (p. 136).
4. " The function of ethics is to reconcile the independent aims and wills of a community of people . . ." (p. 170).
5. " What makes us call a judgment ' ethical ' is the fact that it is used to harmonize people's actions " (p. 145).

Kurt Baier, whose position is very like Toulmin's, also conceives of the functions of morality in the same general way. To take the moral point of view is to " regard the rules belonging to the morality of the group as designed to regulate the behaviour of people all of whom are to be treated

as equally important ' centres ' of cravings, impulses, desires, needs, aims, and aspirations ; as people with ends of their own, all of which are entitled, *prima facie*, to be attained ".[5] A " genuine moral rule must be *for the good* of human beings ".[6] But all our desires are to count alike and all " centres " of desire, excepting definitely recognized and *universalisable* exceptions, are to be treated alike.[7]

The primary reference of moral concepts is not some sort of mysterious, non-natural property ; rather, while remaining gerundive concepts, they also refer to variable human dispositions, feelings, interests, desires and the like.[8] Moral discourse is concerned with altering feelings and with guiding actions so that people can live together in harmony. Like the mythical ' social contract ' of the English and French philosophers of the seventeenth century, morals serve to bring man's independent desires and needs into some manageable ' peaceful coexistence '.

However, it must *not* be thought, from the above account, that Toulmin and Baier regard morality as an activity that seeks to attain social cohesion *at any price*. It is the characteristic function of morality to harmonize conflicting desires and interests in a *particular way*. Morality seeks to harmonize various interests in such a way that there will be no more suffering than is absolutely necessary for there to be social life. Moral rules are intended to allow as many people as possible to achieve as much as possible of whatever it is that they want. Morality adjudicates between these desires and interests only in the sense that it insists that we only seek to achieve those desires which are compatible with our other desires or with the desires of other people. Thus, morality is irreducibly *social*.[9] Toulmin contends that the concept of ' duty ' " is straightforwardly intelligible only in communal life ".[10] ' Duty ', ' obligation ', etc., in their basic uses, do a job only where we have a situation where a choice is involved that will affect the interests of another member of a community.

Toulmin's own development of the characteristic functions of morality leaves something to be desired. It *seems* to suggest that there could be no questions of international morality or any moral agreement between members of different communities.[11] I do not think that this is Toulmin's intent or a consequence of his analysis but I am not concerned with an exegesis of Toulmin here.[12] But *if* it is his point he is surely mistaken. In developing

[5]Kurt Baier, " The Point of View of Morality," *The Australasian Journal of Philosophy*, vol. XXXII (August, 1954), p. 123.

[6]*Ibid.*, p. 126.

[7]*Ibid.*, pp. 123-6.

[8]Toulmin, *op. cit.*, pp. 125-9.

[9]*Ibid.*, Chapter 10.

[10]*Ibid.*, p. 136.

[11]Dykstra takes this to be Toulmin's point or a consequence of his theory. See V. H. Dykstra, " The Place of Reason in Ethics ", *The Review of Metaphysics* (March, 1955), pp. 458-67 and V.H. Dykstra, " An Examination of Stephen Toulmin's Theory of Morals ", unpublished Ph.D. Thesis (University of Wisconsin, 1953).

[12]For my arguments here see my doctoral dissertation, chapters 9 and 10. See K. E. Nielsen, " Justification and Morals ", unpublished Ph.D. thesis (Duke University, 1955).

the above conception of the characteristic functions of morality I shall contend that the very meaning of the word 'morality' excludes the possibility of their being a Nazi morality or Hopi morality or American morality that is *just* an American, Hopi, or Nazi morality. By this I mean (for example) that if A is blameable for a given act, he would be blameable *whoever* he is, unless his being that particular person or a member of that particular group made some morally relevant difference. And, what is to count as a 'morally relevant difference' must in turn be universalisable. Moral utterances are objective in the sense that they do not apply exclusively to any given speaker or class of people but are meant to count for all people in like circumstances. Moral utterances are universalisable; they must be so if they are to count as 'moral utterances'. In their most characteristic forms, moral judgments are utterances in which the "rational element predominates"[13]; full-fledged moral judgments are to be contrasted, as are full-fledged judgments of perception, with an immediate report or an unconsidered exclamation.[14] Like Hume and Westermark, Toulmin emphasizes that:

> In ethics, as in science, incorrigible but conflicting reports of personal experience (sensible or emotional) are replaced by judgments aiming at universality and impartiality—about the 'real value', the 'real colour', 'the real shape' of an object, rather than the shape, colour or value one would ascribe to it on the basis of immediate experience alone (p. 125).

The above conception of the characteristic functions of morality might be stated rather generally, though pedantically, in the following manner. I shall refer to this general statement of the characteristic functions of morality, or moral discourse, as (W). It reads as follows:

> (W) The characteristic functions of moral discourse are to guide conduct and alter behaviour so as to achieve the harmonious satisfaction of as many independent desires and wants as possible.

It is important to note that this is a descriptive statement saying what sort of activity moral discourse is and what sort of functions it has. (However, it is crucial to note just what sort of descriptive statement it is. More on this in IV.) It is not intended to exhort anyone to be moral or to take the point of view of morality or anything of that nature. It is not prescriptive or normative at all. It only points out that moral discourse serves to guide conduct and alter behaviour in the above fashion. Whether behaviour *should* be altered in that fashion or conduct *ought* to be guided in that fashion is something which cannot be determined just by examining the functions of moral discourse. Because the word 'moral' occurs in it and because we normally assume that people ought to be moral, there is, of course, upon reading (W), a normal tendency to think that it is something we ought to do.

[13] Toulmin, *op. cit.*, p. 129.

[14] *Ibid.*, p. 123.

But it is intended here as a completely non-normative statement. Further, when I speak of the characteristic functions of moral discourse I mean to be using the words 'moral' and 'functions' quite descriptively and not also as *grading labels* that would suggest the functions of moral discourse are ends we ought to seek. This also applies to my use of 'harmonious' in (W).

III

Let me now turn to some possible criticisms of (W). It is natural to suggest that with 'naturalistic' or egalitarian universalistic leanings I have *persuasively defined* 'moral discourse'. It might be said that such a conception of the functions of moral discourse may very well characterize the conception of the characteristic functions of moral discourse in secular 'internationally minded' Western circles, but it does not adequately characterize what some of our ancestors and what some of our Western neighbours regard as the functions of moral discourse. And it certainly does not adequately characterize the conceptions of the functions of moral discourse in tribes radically different from our own.

This kind of criticism can be particularized and extended. It is *probably* true that the 'plain man' would be shocked, if not just amused, at being told that he uses moral discourse in the way I have said he uses it. He might even add: "This is monstrous. When I say something is moral, I mean it is the *right* thing to do. Morality pertains to *right conduct*. It's the activity that is concerned with advising and counselling us in what we *ought* to do and how we *ought* to live. It has nothing to do with all your fiddlefaddle about interests, harmonious satisfactions of desires and the like. Morality deals with what is *right*".

Such a reaction, though quite natural, misses my point about the characteristic functions of moral discourse. The following two considerations are crucial here.

First, 'morality' itself, like 'good', 'right', 'beautiful', 'nice', 'neat' and 'honest', is normally a *hurrah word*. Taking a moral point of view is the thing we *ought* to do; if something is moral it is commendatory, something that ought to be done. Thus, assuming the point about the *naturalistic fallacy* is well taken, we can never *define* 'morality', any more than any other evaluative term, in completely naturalistic or empirical terms. The plain man upon seeing our 'definitions' misses precisely the normative element or the dynamic element in them that he rightly associates with moral and valuational predicates. He then wants to say: "Morals does not harmonize people's actions; it tells them what they *ought* to do". But his objection is not to the point. I am not trying to define 'morality' or 'morals' in the sense that R. B. Perry tries to define 'value'. Rather, I am concerned to characterize the functions of moral discourse. I am not trying to define what we mean by 'morality' in a "purified empiricist language" or any other so-called "ideal language". Rather, I am trying

to describe or characterize what sort of roles moral discourse has in life. This is *not*, however, an empirical sociological description of the morals and manners of the human animal. Rather any such study would have to presuppose just the conception I am trying to get clear about. That is, it would have to presuppose we clearly understood what the functions of moral discourse are. Rather, I am asking : How does moral discourse fit in with the other forms of discourse ? What sort of job or jobs does it do ? Concerned with this task I can speak, in terms of satisfactions and social harmony and the like and, without the slightest inconsistency, admit that a term like ' morality ' is not definable in wholly naturalistic terms.

Let us note a second consideration. Our plain man's ' definitions ' are unenlightening. To be told that morals pertains to right conduct doesn't help us out at all in understanding the functions of morality, for we only ask, " But, what is right conduct ? " I am trying to push aside that " surface grammar " in order to try to understand the style of functioning of moral utterances ; that is, I am trying to come to understand how moral utterances really operate. I am concerned to give what Toulmin has called a " functional analysis " of moral discourse as an activity. Toulmin makes the same general point about a " functional analysis " very explicitly when he is discussing : " What is Science ? ".[15] But I believe it is readily applicable to his remarks and to my remarks about the functions of moral discourse. Toulmin remarks that, in describing the function of science, he does not wish so much to contradict or to compete with the man who says " Science is systematic and formulated knowledge " or the man who says " Science is organized common sense " as to *elucidate* such enlightening remarks by an analysis of the function of science.[16] I think that he would say the same thing of the man who said that " Morals is concerned with right conduct " or that " Morals is a practical science that gives us the rational basis for our actions ". But these last characterizations of morality or moral discourse though correct are unenlightening. Having no explanation of the actual function of moral discourse we remain philosophically puzzled. We ask : " What conduct is right conduct ? And what do we mean by the rational basis for our actions ? " My method (and Toulmin's method) is radically different. I am—as I have said—simply trying to describe the role moral discourse plays in our lives. Though my manner of speech may at first be shocking to the ordinary man, I see nothing about it, once what I an trying to do is understood, which would allow us to say that the above view of the characteristic functions of moral discourse is plainly wrong as an *explication* of what we in ordinary life mean by the characteristic functions of morality.

IV

There is an additional problem for this kind of analysis. Let me bring this problem out by examining a question that might naturally be asked of

[15] Toulmin, *op. cit.*, p. 104.
[16] *Ibid.*, p. 103.

me at this juncture. The question is the following : " *Is (W) empirical or analytic* ? " This indeed is an embarrassing question. I candidly say " embarrassing question " because (1) I am troubled about just what to say about the rigidity and exclusiveness of the distinction between analytic and empirical statements, and (2) I do not want to say that (W) is either analytic or empirical in any straightforward sense. (But by this I certainly do not mean at all to suggest that I am worried about whether it might be a so-called synthetic *a priori*.) I feel uneasy about my analysis at this point, but I shall try to make clear why I do not feel that we can appropriately call (W) either analytic or synthetic. Note, by way of preliminary clarification the following two considerations.

First let me make clear why I do not want to take an ' out ' that would allow me to skirt or avoid the whole problem. I could do this by pointing out that some of the constituent terms of (W), i.e. ' morality ' and ' harmonious ', have an irreducible emotive or expressive dimension and therefore (W) can not be called either empirical or analytic. But I have in my above treatment " emotively neutralized " ' morality ' and ' harmonious satisfaction '. I have fastened exclusively on the criteriological aspects of (W). I can then (if I care to) add that the word ' moral ' or ' morality ' is a *commendatory* word or a pro-grading label. The word ' morality ' could be applied to a completely different class of actions and still—at least for a time—remain a commendatory word. But grading labels are never just emotive or just commendatory. They always refer to a given class of actions, objects or attitudes. They are representative as well as expressive. *If* the word ' morality ' were applied to a completely different class of actions from those we have been describing, then we would say that the same word had a new use or a new meaning and that, in a quite ordinary sense, we were not talking about the " same thing " at all. For the above reasons I think we can ignore the emotive or commendatory aspects of ' morals ' and ' morality ' in the *above context*.

Secondly, (W) could be made analytic by stipulative definition. But this would not help us, for what we want to know is whether in ordinary language (W) is analytic or not. Or, more precisely, when considering only the criteriological aspects in ordinary language, whether (W) is analytic or not.

With these two preliminary matters out of the way, I can best bring out my reasons for not wishing to classify (W) as being either analytic or empirical. Note first that (W) *seems* at first glance to be a straightforward empirical statement. But then ask what would count as a disconfirmation of (W) ?

I shall consider three characteristic functions of moral discourse that purport to be disconfirmation. I shall call them (S), (N), and (B). I shall seek to show that, depending on how they are understood, they are either improper descriptions of moral discourse or quite compatible with (W). I shall try to show that they are improper descriptions of moral discourse

by showing that they fail at some point to make literal sense or that they violate our use of moral language. In making this last claim I am not simply appealing to (W) and thus begging the question at the outset. Rather I will appeal to the fact that we all know how to *operate* with moral language and can recognize bits of moral language when we hear it or see it written. Appealing to this ability of ours, I will try to show how (S), (N), and (B) violate, in one way or another, our language sense. Because of this they cannot serve as functions of moral discourse if the phrase ' functions of moral discourse ' is to have its customary meaning. And in giving an analysis of ' the functions of moral discourse ' this is all that is at stake. I am not trying to answer what would be the functions of moral discourse if the phrase ' the functions of moral discourse ' were to have a different meaning from what it has.

Let us turn first to (S).

(S) A characteristic function of moral discourse is to guide conduct and alter behaviour so as to develop an integrated self.

Now, would we accept this as a disconfirmation of (W)? I think not. In justification of this, note the following line of reasoning. Some people might wish to contend that (S) too was a characteristic function of moral discourse. Since morality is an *open-textured* concept, it is quite possible that moral discourse could, *in some contexts*, function to develop an integrated self. However, to say that (S) is a function incompatible with *and* more basic than (W) would be to fail to understand that duty-words and obligation-words (paradigms of moral expressions) take their standard uses not from personal contexts but from inter-personal or social contexts.[17] Indeed we can speak of duties to ourselves, but this is a secondary use of ' duty ' that is parasitic for its meaning on a standard use of ' duty '. This standard use of ' duty ' is a use which functions to prescribe acts we must perform for other people quite apart from whether these acts would integrate our personalities or not. Thus anyone who offered the above function as a disconfirmation of (W) could be shown to be making a purely linguistic error ; that is, he would *not* be using duty-words or obligation-words correctly.

Suppose someone offered as another disconfirmation of (W) the following conception of the characteristic functions of morality. Let us call it (N).

(N) The characteristic functions of moral discourse are to guide conduct and alter behaviour so as to develop a superior class of man for which the rest of mankind are to exist simply as a means. That is, the rest of mankind are not to be regarded as moral agents with a worth of their own.

Traditional philosophical ethicists would probably claim that here we have a conflict between two basic conceptions of moral discourse and the moral life. (N) describes the function of moral discourse in a Nietzschian or quasi-Nietzschian morality of the " superman ". I am making the more philosophically radical—though not, I trust, commonsensically radical—sug-

[17]Nowell-Smith, *Ethics*, Chapter 16.

gestion that (N) is not, and cannot be, a characteristic function of moral discourse at all. This is so because of the meaning we attach to the word 'man'. To be a man is to be *by definition* a moral agent. Even the Greek with his slaves and the Germans with their treatment of the Jews are not exceptions to this. It was necessary for them to give some universalisable reasons for slavery or Jew-persecution. It was necessary for the Germans, for example, to conceive of the Jews as a lower class of man—a class of "men" hardly human at all—in order to rationalize their treatment of them.

To be a man is to be just the sort of animal to whom, in specified situations and at a specified stage of development (beyond infanthood and before utter senility), moral blame and praise attach. It is true that in certain contexts certain human beings have moral priority over other human beings. But this moral priority is always based on certain specifiable and *universalisable* reasons. Thus in our culture we have, in certain reasonably definite contexts (the sinking of a ship, etc.), the rule: "Women and children first". We could readily envisage a culture with a morality in which *not* this moral rule but one incompatible with it obtained, but we cannot envisage a context—unless we change the use of 'moral consideration'—in which men were not treated as moral agents *at all*. Our Nietzschian with his (N) is asking us to do just that and because of that he is not describing a possible function of moral discourse at all. Again our arguments do not turn on any empirical considerations but merely on implicatory relations between standard uses of 'man' and 'moral'. And, in virtue of the uses of these words (N) could not possibly count as a disconfirmation of (W).

Let us consider another claim which might serve to disconfirm (W). Let us call it (B).

> (B) The characteristic functions of moral discourse are to guide conduct and alter behaviour so as to develop a superior class of men who do not seek the ordinary mundane desires of ordinary men but who attempt to "go beyond desire" altogether.

Assuming the validity of the rule that in morals "'ought' implies 'can'", I wish to contend that (B) sets up a logically absurd "ideal" that cannot even *in theory* be obtained. It would only be possible for the "superior class of men" *to attempt* to go beyond desire; they could not *possibly* go "beyond desire". And, as I shall argue below, *if* the word 'attempt' has its usual logical force they cannot even *attempt* to go beyond desire. (B) is asking them to attempt to do something they cannot *in theory* do and it therefore violates the "'ought' implies 'can'" restriction.

But to establish the above point clearly I must show *why* a man cannot possibly do what he is asked to do in (B) and why it could not possibly serve the function it purports to serve.

To see this point consider the following question. How could a morality based on (B) alter behaviour? It is analytic that man only *does* what he

is *motivated* to do.[18] Moral exhortations from any norm based on (B) could only take place on the absurd condition that men were men without desires. (Consider . . . could we call a being a *man* if he were totally without desires? What would it be like for a *man* or a sentient creature to be without desires?) But, if men were without desires then exhortation could not possibly have any function. The word 'exhortation' could not have any meaning or use. If the conditions which (B)—on one interpretation—states were fulfillable; that is, if men could possibly become desireless then it would be nonsensical to speak of altering behaviour or, for that matter, of guiding conduct, for it is only possible to guide conduct if behaviour *can be* altered. (B)—if taken literally—sets up conditions which make it theoretically (logically) impossible to alter conduct. This is so because man can only do those acts that he is motivated to do. And a "*desireless man*" could not possibly have any motivation. When people state something like (B) they seem to mean to say that they *desire* to go "beyond desire". And this makes no literal sense. What they mean *literally* is that they desire to go beyond a certain *class* or range of desires which they desire not to desire. Their problem is of the same logical order as that of the drunk who desires not to desire alcohol. In other words we have a conflict of desires. But here we are clearly not attaching any *literal* sense to the phrase 'to go beyond desire altogether'. Men like Gandhi and Epictetus are recommending that we have as few desires as possible. Viewed soberly their requests amount to asking us to only want or desire a certain very limited group of activities. But they cannot be telling us to go beyond desire altogether.

There is still one further quite distinct consideration about (B). It might be claimed that I have in the above interpretations misread (B). (B)—the argument might continue—does not violate the "'ought' implies 'can'" requirement. It does *not* say that a function of moral discourse is to guide conduct so that some superior men can go beyond desire but only that moral discourse functions to guide conduct so that these superior men will *attempt* to go beyond desire. If (B) stated a characteristic function of moral discourse, a person making a "moral appraisal" in accordance with it would be advocating *attempting* to go beyond desire and *not*—the impossible—going beyond desire. It might be said that again my analysis has indicated an egalitarian bias this time with a rather "Deweyite" twist. It would be claimed I am simply *assuming* the *moral principle* that it is *wrong* to set for men goals which they cannot attain but which they can only attempt to attain.

But the above argument will hardly do for it does not make logical

[18] This is true even when, in one sense, man does what he doesn't want to do, i.e., acts from a *sense* of duty; for, even then he acts so because the *sense* or *feeling* of duty *motivates* him to act in such a manner. And thus in *another* perfectly intelligible sense he does what he wants to do. This would, of course, only include what are ordinarily called voluntary acts (eating, going to the movies, buying a new hat, keeping a promise, etc., etc.) and not involuntary acts (breathing, seeing when one opens one's eyes, dying, being born, etc.).

sense to ask someone to *attempt* what cannot *possibly* be attained. The word 'attempt' means to make an effort at, to try, to attack. But one cannot make an effort at or try to attain what is altogether impossible any more than one can find or even look for the colour of heat. We do have a *secondary use* of language in which we say: "But you must try the impossible". But we don't mean this *literally*, we mean it *figuratively*. The secondary use is used characteristically in contexts in which we want, for some reason or another, to exhort a person to do something that is *very hard* and in which his chances of success are slim indeed. A coach might say this to his team when it was far, far behind, a soldier to his comrade when they were trying to make it back to their own lines, or a doctor to a patient. But if something is *logically* impossible, we cannot sensibly ask anyone to attempt the impossible. This would not be a genuine attempt but only a caricature of an attempt. The word 'attempt' could not have its standard meaning here. Thus (B) does stumble over the "'ought' implies 'can'" requirement and thus stumbles into absurdity.

All these above examples seem to militate against treating (W) as an empirical claim. Any alleged disconfirming statements are ruled out on purely linguistic grounds. At this point it is entirely natural to ask of me: "*What would you take as a disconfirmation of* (*W*)?" My answer is that I cannot honestly conceive what would count as a disconfirmation of (W) or for that matter as a confirmation of it. This is why I do not want to call it an empirical statement. In other words I do not think its truth or falsity is an empirical issue in any usual sense of 'empirical issue'. But then it is natural to ask: "Is not (W) analytic?" And, I do not want to say that it is analytic either. Let me now give my reasons for not calling it analytic.

First, the contradictory of (W) does not seem to me self-contradictory though it does seem absurd and pointless. That is, I can not conceive of any possible application in morals for its contradictory.

Second, morality seems to me to be an *open-textured* concept. Like 'gold', 'man', 'game', etc., and unlike 'triangle', 'square', 'rhomboid', etc., 'morality' does *not* seem to have any defining conditions that are both necessary *and* sufficient. I can define a triangle as a three-sided figure and this definition will include all possible triangles. I cannot conceive how the term 'morality' or the phrase 'a moral consideration' could be so exhaustively defined apart from some linguistic stipulation on our part. Thus, as there are in ordinary discourse no necessary and sufficient conditions to define 'morality', we cannot treat (W) as analytic. I repeat we can *make* (W) analytic but it is not so in ordinary language.

As long as we try to fit everything in natural languages into the corset of analytic or empirical we are bound to be unsatisfied. But I see no need to force our conceptual categories. (W) is just a statement descriptive of or characterizing the function of morality; it states the *characteristic* functions of the activity or form of life we call 'moral discourse'.

(On this level it *might* be called an empirical statement about the linguistic usage of the word 'morality' and the 'functions of moral discourse'. But this would have the paradoxical conclusion of reducing philosophy, or at least this kind of philosophy, to a bit of rather *a priori*—and therefore (by definition) bad—empirical linguistics. I was not trying to develop a generalization of the kind made in empirical linguistics. Further, (W) does not seem to me to be that kind of generalization. To use Ryle's way of putting it, I have sought to explicate the *use* and not just the *usage* of 'the functions of moral discourse'. But it is both difficult to *say* and difficult to *know* just when one is talking about usage and when one is talking about the uses of language. To get at the uses of language we must examine usage and it is hard to say or to know just when one has "got behind" the maze of usage to the *uses* of language or the style of functioning of our various areas of discourse. It is perhaps here that we can properly speak of "insight", though here this means nothing more mysterious than a cultivated sensitivity to the operations of language.[19])

V

Leaving the above puzzling aside and even leaving aside the question of whether it is analytic, empirical, or something else altogether, it still seems clear that (W) does set the *limits of moral reasoning*. This much seems established no matter what is said about its logical status. On this point I am entirely in agreement with Toulmin's analysis.

However, the ground and the type of assent we need to give to (W) would vary depending on just what kind of a logical status it has. Thus the question asked in the preceding section is not without importance.

Lastly, it might be objected that I have not demonstrated the truth of (W). This is perfectly true. I must only remind you that all proof and all reasoning is not demonstration. I have attempted to give some *reasons* why it seems to me to be true. This reasoning does not amount to a demonstration and I do not see how, from the very nature of the case, a demonstration is possible. Yet I have given what seems to be conclusive reasons for its truth. I could, of course, attempt to examine more so-called disconfirming examples like (S), (N), and (B). But that would still not give us a demonstration. At this point the most reasonable procedure seems to me to be to turn to the *method of challenge* and ask: if these reasons are not conclusive what reasons would count as conclusive reasons in this context? If (W) is not a statement of the basic and characteristic functions of moral discourse, what is?

[19] G. Ryle, "Ordinary Language", *Philosophical Review*, April 1953. See also Rossi-Landi's discussion of this in his introduction to Oxford philosophy prefacing his translation of *The Concept of Mind*. Ferruccio Rossi-Landi, *Lo spirito come Comportamento* (Turin, 1956).

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DESCARTES' REVISION OF THE CARTESIAN DUALISM

Certainly a most important aspect of the philosophical treatment of any problem is the relationship between that treatment and the philosopher's theory of human nature. Initially Descartes was keenly aware of one phase of this relationship, and the outcome of this awareness was his partly successful revolt against the anthropomorphisms of the Scholastic metaphysics and physics[1] of his day. He was, however, only partially, but I think increasingly, aware of another aspect of this relationship. This is the aspect in which his own theory of human nature radically affected his metaphysical outlook. That he was increasingly cognizant of this effective connection is evidenced by the development within his thought of two discernibly different metaphysics and philosophies of science; for as internal difficulties in the earlier version of his thought became manifest, he was forced to modify his doctrine. This paper is intended to clarify the frequently unnoticed distinction between these two. It will be convenient to begin with a brief note indicating the present interpretation of three points in Descartes' philosophy which are relevant to this undertaking.

(1) The doubt by which Descartes reaches his initial intuitive apprehensions of truth is complex. In fact there are three distinct doubts: the sceptical doubt directed against the veracity of sense-experience; the existential doubt of the existence of an external world, embodied in the myth of the Malign Genius; and finally the hyperbolical doubt of the rationality of the framework within which the doubt itself is developed, which is embodied in the hypothesis of the deceiving God.[2]

(2) Descartes understood the *Cogito, sum* to report not merely an occasion of empirical self-consciousness but the intuitive apprehension of the incidence of an essence in time. The nature and extent of this apprehension may be open to significant question. However, at least, Descartes held that the *ego* of the *cogito* truly apprehends the union of its essence and existence and can abstract the criterion of truth from this apprehension.

(3) The proof, or the expression of the intuition, of the existence of a perfect God destroyed the hyperbolical doubt and provided Descartes with the following epistemological and first metaphysical principle: Whatever is inconsistent with the existence of God is false or impossible. This principle provided the necessary condition for determining truth. From this point

[1] *Cf.* E. Gilson, *Études sur le Rôle de la Pensée Médiévale dans la Formation du Système Cartésien*, Paris (Vrin), 1930, pp. 143 ff, where Descartes' criticism of the scholastic conception of weight is analysed.

[2] *Cf.* A. G. A. Balz, *Descartes and the Modern Mind*, Yale Univ. Press, 1952, chapters 8, 12. If I have achieved any understanding of Descartes' philosophy, this is owing to Professor Balz' writings, especially to the book just mentioned, and to his teaching.

on Descartes conceived his problem to be the disposing so far as possible of the other two doubts in order to determine the limits within which his criterion of truth could be used. . . . Our course, however, will be to consider the nature and effect of the ego which is to know truth.

The criterion of clarity and distinctness can be understood in two senses. It can be understood in a purely logical sense. Perhaps it is always appealed to in logic in this sense, for if one says " A or A entails A ", his only reply to one who doubts this assertion is to appeal to the clarity with which A follows from the protasis. But the same criterion can also be taken in a psychological sense as referring to the undoubted conviction that a proposition is true. The ambiguity was never effectively cleared up by Descartes. In fact, he varies in his own interpretation and use of this criterion. This hesitation follows closely along the lines of the double development which we are to investigate and indeed opens the way for it.

Clearly there are two egos in Meditation II.[3] The minimal (or logical) ego cannot be anything more than the " I " who clearly and distinctly recognizes that his thinking or intuiting is the sufficient condition for his existence. This ego, this disembodied intellect, is the only thing to which Descartes' reason logically entitles him. He is at this point only and wholly a " thing which thinks ", i.e. an incidence in time of a clear and distinct idea. If, however, Descartes is wholly identified with his intellect, then he is confronted by the problem of deciding whether the other faculties of mind, the " aids to the intellect ", i.e. will, memory, imagination, perception, exist and what their relations to the intellect may be. Descartes, though, does not immediately recognize the problem. Instead in Meditation II he makes the completely unwarranted jump to the further conclusion that he is also a thing which " affirms, denies, wills, refuses, which also imagines and feels ". This *non sequitur* is at best a merely hopeful anticipation of the doctrine of Meditation VI, for at this juncture, it is to be emphasized, the relation of all these other faculties of the mind to the intellect remains in the shadow of doubt, as indeed does their existence. Gassendi has reference to this problem when he pointedly asks Descartes what this ego is—and suggests that it can be no more than the intellect.[4] There are passages in Descartes' writings where he appears to assent to this minimal interpretation of the ego. He recognized, though, that this minimal interpretation

[3] A careful study of the obscurities of Meditation II is contained in Balz, *ibid.*, ch. 9.

[4] *Cf. Objections and Replies* (hereafter referred to as " OR ") V, Objections relative to Meditation II, *The Philosophical Works of Descartes*, Haldane and Ross, (Dover), vol. II, pp. 140-143.

That the problem and the view of mind here ascribed to Descartes is fairly ascribed to him can easily be seen. *Cf.* the last paragraphs of Meditation II, also *Objections* and *Replies* VII, section 5. Among his early works this doctrine of mind appears clearly in rule XII of the *Regulae*. There he asserts " It is one and the same power (*vis*) which, when applying itself along with the imagination to the common sense, is said to see, touch, etc. ; if applying itself to the imagination alone in so far as that is endowed with diverse impressions, it is said to remember ; if it turns to the imagination in order to create fresh impressions, it is said to imagine or conceive ; finally if it acts alone it is said to understand." [*Oeuvres de Descartes*, Adam and Tannery, (Paris : L. Cerf,

involved him in difficulties, and so he tended also to identify the ego with the whole of thought. Very much more is contained in his hesitation between these two beliefs than a verbal obscurity. Two doctrines of the nature of man are involved, each of which leads to its own characteristic set of consequences. The two doctrines will be considered here separately.

The First Cartesian Doctrine

From the minimal point of view the nature of the *cogito* is much impoverished. The *cogito* is presented as judgment affirming an intuition. It may refer to a clear intuition reached by the intellect[5]; it cannot, however, be an affirmative judgment. For in Descartes' doctrine it is the will that affirms or denies (cf. Meditation IV). Hence an affirmative judgment requires the co-operation of the intellect with the will. The will, though, is still one of those things not yet defined and whose existence is open to doubt. It is not yet *known* to be a part of the thinking thing, and neither it nor its operation can take a place, yet, in knowledge. The *cogito* cannot, then, be an affirmative judgment. It is, rather, the actual immediate confrontation of a clear idea by that which can apprehend such an idea. Evidently, though, it must be presented in an affirmative proposition for purposes of communication. Also it is a necessary first communication, for it is epistemologically prior to and independent of any other apprehension. Evidently it is an ostensive definition of truth.

The question, now, is to know that there is a will and that it can be brought into a relationship with the intellect such that it can correctly affirm what the intellect intuits.

The sceptical doubt has thrown all empirical procedures into uncertainty. And although this doubt is as yet unresolved, Descartes finds it necessary to turn to the use of empirical and introspective procedures. He examines the storehouse of his mind and finds a great deal therein other than clear and distinct ideas; he finds the faculties of will, memory, imagination, perception. He proceeds by assuming the existence of these aids to the intellect and argues that since they exist they must be coherent with the metaphysical principle; hence there must be some way of using them reliably. He says of the will, "I experienced in myself a certain power of

1897-1913), (hereafter referred to as "A and T"), vol. 10, p. 415.] Now this doctrine could be asserted by the Scholastics, because their philosophy also held to the existence of a material *principium individuationis*, a union of the mind with corporeal organs which distinguished the aids to the intellect from the pure (i.e. non-corporeal) intellect. But Descartes, looking forward unawares to his later doctrine, rejects this union of mind with matter. He says, in the same rule, "we must think that that power [*vim*] by which we are properly said to know things, is purely spiritual and not less distinct from every part of the body than blood from bone, or hand from eye". How, then, can Descartes distinguish the intellect from its aids? They must be distinguished, otherwise error and the science of nature become inexplicable. But Descartes has discarded the Scholastic principles and method of making such distinctions.

[5] "Car par l'entendement seul je n'asseure ny ne nie aucune chose, mais je concoy seulement les idées des choses, que je puis asseurer ou nier". Meditation IV, A & T. vol. 9, p. 45.

judging which I have doubtless received from God . . . and as he could not desire to deceive me it is clear that He has not given me such a power as will ever lead me to err if I use it aright" (Meditation IV, A & T, vol. 9, p. 43). The problem is how to use the will so that its infinite reach is limited to affirming only what the intellect sees clearly and distinctly. Descartes believes that the will can be swayed by intellect and that it ought to be so swayed . . . "from a great clearness in my mind there followed a great inclination of my will", he writes in the same Meditation (A & T, vol. 9, p. 47). Precisely how, though, is the will inclined to assent to the intellect? Of what kind of relation is its relation to the intellect an instance? This point remains unclarified.

Similarly, it is to be noted that memories of clear and distinct ideas are not clear and distinct ideas. They are memories only. In Meditation V, accordingly, Descartes attempts to press back the boundaries of doubt by validating memory. Again it is evident that the existence of memory is known only by introspective observation. Admitting, nevertheless, that memories exist, we have to ask which memories are to be trusted. Evidently we can trust those which participate in some fashion in the clarity and distinctness of the ideas in the intellect. But how can memory, which appears to be different from intellect, nevertheless share in certain properties of the intellect? The metaphysical principle which entails that everything that exists is permeated by intelligible order, entails that memories are intelligible also and hence can be used rationally. The reliable or most rational memories are easily supposed to be the recollections of clear and distinct ideas. These memories are characterized by a kind of analogous clarity, and therefore they seem to share in the certainty of clear and distinct ideas.[6] It is to be noted, though, that clarity of memory is not intellectual clarity, though it is treated as such. We do not, evidently, really know what the relation of memory to intellect may be; to this extent our knowledge of mind is not actually permeated by rationality. The effect is a compromise with the ideal of truth. Whereas formerly immediate, intellectual clarity and distinctness constituted the mark of the apprehension of an essence by the intellect, now the recollection of such an apprehension is accepted as authoritative. This clarity of recollection is quite a different thing from the logical clarity of an intuition. It may be nothing more than a psychological criterion—i.e. a conviction of truth which arises from the vividness of the recollection.

Meditation VI offers a discussion of the last of the aids to the intellect: imagination together with perception. Descartes reiterates his stand that imagination is not a power co-ordinate with intellect or understanding, but inferior to it. For the intuiting of true ideas is the essential function of mind, whereas imagination, perception, and the rest, are merely modes of thinking. Hence, "this power [*vertu*] of the imagination which is in me, in as much as it differs from the power of the understanding, is in no way

[6] *Cf.* Meditation V toward the end; also *Principles* I, 13 and 44.

necessary to my nature or to my essence, that is to the essence of my mind ."[7] Also the two faculties differ in that the intellect is passive, receiving without effort or productive activity the illumination by the essences which it perceives (as the eye passively registers the light which falls upon it), whereas imagination actively engages in the production of its images.[8] Finally, they differ with respect to content, for imagination " turns toward the body " and considers extended objects, sometimes in a mathematical manner, sometimes including in its range many things—colours, etc.—with which the (applied) mathematician is unconcerned. But the intellect can know truly other things besides the nature of extension, mathematically considered, also it may very well fail to have intuitions concerning many matters which do occupy the imagination. Thus the two, intellect and imagination, are distinctly different in content, nature, and function. Can we, though, despite these differences, be assured that the intellect can rely upon the imagination ? We are invited to examine a crucial instance of the operation of the imagination.

One outcome of imaginative and perceptual activity is the conviction that an external world exists. This conviction is powerfully seconded by tradition. But is it, according to our criterion, true ? The imagination is aware of the bodies presented to it through sense-perception and memory. Are they so presented in fact ? The Malign Genius can still kindle a doubt in our minds. The proof of the existence of the external world turns on one hand upon the empirically evident presence in the imagination of modes of thought which are independent of the will and on the other upon the metaphysical principle reached by the denial of a deceiving God. As Descartes expresses the matter, he does not reach a clear and distinct idea of the existence of an external corporeal world. Rather he is aware of " a very great inclination to believe " (A and T, vol. 9, p. 63) that adventitious ideas refer to corporeally existing things. Now, since God is not a deceiver, Descartes concludes that this firm inclination must be accepted as true. God has spoken, as it were, in nature or in our experience of nature, and Descartes must accept a firm conviction where he can not understand. Again, acceptance of this firm conviction represents a compromise with the ideal of truth. Yet it is a most important compromise. For only if it is accepted will we be in a fair way of making the crucially important distinction between mind (or self) and all that is not mind, i.e. the depersonalized nature which is to become the object of mechanics.

It is important to recognize that a firm inclination to believe is specifically not a true idea, any more than, as we pointed out earlier, a lively memory is identical with the intuition itself which is recalled, or than a great inclina-

[7] Meditation VI, A and T, vol. 9, p. 58 ; *cf.* also *Principles* I, 53.

[8] " I recognize that I have need of a particular effort of mind in order to imagine which I do not require in order to understand, and this particular effort of mind clearly manifests the difference which exists between imagination and understanding or pure intellection ". Meditation VI, A & T, *loc. cit.*

tion of the will is identical with the intuition which is affirmed. Although the Malign Genius was destroyed in principle when the hypothesis of the deceiving God was contradicted, still the Genius persists until this Meditation in order to force a proof of the existence of an extended world. The proof, however, is achieved only by diluting still further the standard of intellectual clarity and distinctness. The firm conviction, now accepted as a sufficient mark of truth, was exactly what was earlier in doubt. In fact in Meditation III the "spontaneous inclination" which impelled him to believe that fire existed and was hot was carefully distinguished from the natural light which informed him of no such certainties. Now, though, the spontaneous inclination is being accepted, since refusal to accept it is said to be tantamount to questioning the veracity of God. Thus, the gap between mathematical essence and existence seems to have been bridged by accepting the logical criterion of clarity and distinctness in a psychological sense; and a theological sanction is provided to defend this equivocation. Even so, all inclinations to belief and all images of the imagination are not to be accepted with equal readiness. Which are to be credited?

Again the difficulty seems to arise from a failure to find what specifiable relation holds between the intellect and its imaginative and perceptual aids. These have been so widely separated[9] that a reunion of them is at best a problem. Appeal to the metaphysical principle can scarcely go further than indicate that imagination is rationalizable, i.e. that it is not of its own nature necessarily deceptive. This appeal, however, does not at all indicate how the imagination is to be used in the search for truth. Left at this point—and even granting that some imaginative modes prove the existence of an external world—the argument would not profit greatly. Evidently no clearly unified doctrine of the mind appears to be taking shape. We have reached an impasse. Because science is sought by the mind which must know its own powers, Descartes undertook a consideration of the mind's dualisms: the dualism of intellect and will, of intellect and memory, of intellect and imagination. None of these dualisms was healed; that is, none could be brought into an intelligible unity with the intellect by mere appeal to the metaphysical principle. We are, therefore, still faced with the question: In what sense is the creature of distinct powers—intellect, will, memory, imagination and perception—a unified thinker who can use all his powers to produce the unified science which is destined to become the means to the one human wisdom? This image of the human mind as a collection of rather vaguely related faculties, each external to the others, evidently runs strongly through a part of this philosophy, and it is difficult to see how it could have been avoided, considering his procedure of beginning with a minimum of certainty and then cautiously and gradually including a limited use of the other distinctly different faculties. One would expect that such a theoretically disunified mind reflected in a vision of nature, would inevitably issue in the picture of a cosmos similarly composed of

[9] "The two powers of understanding and imagining differ, not so much in respect to more and less, but as two wholly distinct modes of operation". O.R., concerning Objections to the Sixth Meditation, No. 1.

isolated elements externally related after the fashion of the parts of a machine.

Further, the well-known dualism of mind and extended nature seems merely to be an extrapolation to the ontological sphere of the dualism between imagination with its perception of qualities and intellect with its apprehension of mathematical essences. In some passages Descartes seems to be at pains to render this gap between knower and known quite unbridgeable; he writes, "there is nothing at all in common to thought and extension."[10] In other words, the discontinuity noted in the doctrine of mind is reflected and emphasized in this terminal dualism of mind and body. In these circumstances the real man (or soul) cannot even be regarded as a pilot in a ship, simply because any kind of relationship—except independence—between such a pilot as an immaterial soul and a material ship is quite inconceivable. The philosophic consequence is a host of insoluble problems. The practical consequence is a universe in which human values form no part and in which a man in his uniqueness is alien. Happily, though, another theme is evident in Descartes' thought which suggests a different analysis and a different doctrine of mind as well as a different relationship between science and its object.

The Second Cartesian Doctrine

This other theme is especially evident in Meditation VI and in the *Principles*. It appears to arise out of Descartes' effort to deal with the difficulties in the ontological dualism. And, in fact, this dualism is the capital point that, unexpectedly enough, may render possible the definition of thought as a unity rather than as a mere collection of mutually exclusive faculties.

Thought must be all that is not extended. Hence, the character of this thought must be different from the character of extension. One important property of extension is its divisibility; thought must, therefore, be indivisible. Being indivisible, it must also be a unity. This is the conclusion of the last Meditation which so profoundly startled its author. For as respects the mind, "the faculties of willing, feeling, conceiving, etc., cannot be properly said to be its parts, for it is one and the same mind (*esprit*) which employs itself wholly in willing and wholly in understanding, etc."[11] The mind, then, is one thing and is constituted by all that in a man which is not extended or is not body. Evidently the mind, from this view-point, must be understood no longer in a mechanical fashion as a collection of parts, each having its separate function, but as a unity of functions.[12] The illustration which comes to mind is the human organism which is wholly human in each of its functionally diverse parts, i.e. it is not that a particular sense-organ sees, hears, or feels, but the man does these things. From this point of view some possibility may remain for showing that the aids to the intellect can participate in the properties of intellect and, therefore, can justifiably assist in the search for truth.

This transition—or hesitation—in Descartes' thought is deeply significant

[10] O.R., Vol. 7, Haldane and Ross, vol. II, p. 212.

[11] A. and T., vol. 9, p. 68.

[12] *Cf. Meditations*, loc. cit.; also O.R. II; *Passions* XXX.

both for understanding the stresses and strains in this philosopher and for understanding the enormous body of thought and changes in thought which followed on his innovations. Thought, the whole contents of consciousness, is now taken to be substantial. Probably by reflecting upon this notion of substance we can grasp as well as in any other way what Descartes' present approach to his problem really entailed. Descartes certainly did not accept the notion without criticism. Neither did he escape the organic and artistic metaphors which helped to fashion Aristotle's philosophy. At any rate the outcome is that he defines substantiality as completeness in being.[13] This unity of a substance—at least of thought substances, as just indicated—is an indivisible unity. Each thinker, each self, is a separate substance. His essential attribute is intellection. Imagination, memory, etc., are modes or accidents of his substantial thought (*Principles* I, 65). Also the soul substances are originative, that is, they spontaneously and of their own nature perform their functions, unlike bodies which operate like machines. And the function of thought substance is obviously to think. The doctrine of innate ideas is an expression of this originative (or " self-moving ") power of substance, for evidently an innate idea is one which thought spontaneously produces or which is part of the nature of thought. This substantial thought is self-contained and not dependent upon any other substance (e.g. on another self or on extension) except God in order to exist. And finally, a substantial thinker can communicate not only with other selves but also somehow with extended substance. At least he communicates with that mode of extended substance which he calls his own body and through this with other modes of extension. These characteristics of thought substance, as they are developed in Descartes' writings, i.e. unity, indivisibility, originative activity, independence, completeness, and power to communicate—are the properties attributed to substance in the Aristotelian tradition; they are properties of any individual organism.[14]

Perhaps this concept of substance enabled Descartes to see a satisfactory solution to the problem of the relation of intellect to its aids. For if the mind is an organic unity having diverse functions, it may be no more extraordinary that the same mind should sense, imagine, remember, will, and finally envisage essences, than that the same man should eat, be father of a family, become a citizen, mathematician, philosopher. The whole man is said to be present in each phase of his activity. His identity is evident equally in the whole and in the part[15] of his activity. The problem of the unity of the mind is not solved by classifying it as a substance or organism, but at least this classification reduces it to something familiar. For if the mind can be understood as an organism, then evidently its faculties will

[13] *Principles* I, 52; O.R. IV, reply to the first part.

[14] Descartes, though, repudiated the use of the term " organic " as applied to thought. *Cf. Notes Against a Programme.* Did he, though, understand the trend of his own thought in this respect?

[15] *Cf.* Meditation VI, " When I consider my mind (*esprit*) that is to say, myself inasmuch as I am only a thinking thing, I cannot distinguish in myself any parts, but conceive myself to be one single and whole thing ". A. & T., vol. 9, p. 68, and *cf.* O.R. V, Reply No. 4.

not be seen "outside" each other, as the first analysis indicated. They will be understood to develop together through their growth and discipline to maturity and healthful co-operation. Such an understanding would be a desirable goal, but in fact Descartes does not offer a clear description of this organic mental unity which becomes diversified through some kind of growth without losing its identity. Let us grant, nevertheless, that within the organism of the mind the intellect can use the experience of the whole man as the material out of which science is to be produced. Evidently this is the conclusion which Descartes desired to reach.

This way of expressing the matter, in addition, suggests what is evidently to be understood: that the experience from which sciences are made, and which thereupon becomes the object of science, is in no way external to the mind. Experience is the product of the mind's functioning at one level (i.e. as perceiving, remembering and imagining). Science is the product of the mind's functioning at a higher level (i.e. as seeing within certain items of experience the embodiments of mathematical essences). Thus both science and the material out of which the sciences are to be made are internal to the mind. Two earlier problems arise—in changed form—in this new context. There is the question of determining the character of the specific kind of experience from which sciences are to be made, and there is the matter of the relation, in this altered context, of this experience to a real but external extension.

What kind of experience, then, is most transparent to the scientific intellect? From the present point of view the distinction between qualities is again the heuristic principle which guides us to making the distinction between those aspects of experience which signify something beneficial or harmful, and those aspects which lead to knowledge, i.e. which signify a correlation between an essence which the intellect can understand and a mode of extension. The distinction now, though, is a distinction within experience. It would certainly be unfaithful to Descartes to say that matter tends to become assimilated to thought. Nevertheless, the object of the sciences, at least its immediate object, takes on a completely new aspect in the present context. This new aspect contains more than a suggestion of the doctrine of empirical realism.[16]

[16] *Cf.* Kant, *Critique of Pure Reason*, A 492, 493.

Descartes notes the presence in him of thoughts whose objective reality (or referent) is something other than thought itself. His metaphysical principle supports the conviction that these thoughts represent something of the nature of those things which exist and are not merely of the nature of thought. But the questions persists whether the thought can be known to be, or to become, in any way similar to the extended object in any intelligible sense.[17] For after all, the perception of any quality, including primary ones, is mental, and we get no closer to extension itself than our

[17] Gassendi raises essentially this problem in *Objections* V. Descartes' reply to it is to observe, "As to the imagination which can only be exercised in reference to corporeal things, my opinion is that it requires the presence of a semblance which is truly corporeal, and to which the mind applies itself, without, however, its being received into the mind". O.R. V, concerning Objections to the Sixth Meditation, No. 4, Haldane and Ross, p. 231.

perception of it. Perhaps, though, this perception and experience of an external world—not the external world itself—are all that need be considered as the object of science. It may be that this view is implied by the conclusion that the object of science as well as science itself, is internal to the scientist. Thus science now becomes science of experience. Perhaps his conviction is correct that there is some external world which corresponds to the percepts and imaginative constructs through which the scientist must see the world—for the existence of a Malign Genius has been shown to be an untenable hypothesis. Nevertheless, Descartes uncovered no way in which he himself could verify the detail of his scientific pronouncements in their extraperceptual reference. The external thing itself is " not received into the mind ". Evidently this is the reason for his tentativeness in putting forward his hypotheses in *Le Monde* and in the *Principles*. The world behaves *as if* these imaginative constructs were true.[18] Further, these imaginative constructs (body, mechanism of matter, biological mechanism) help to guide the scientist to those aspects of his experience which can be measured and understood mathematically—i.e. clearly and distinctly—and hence are true. Such successes indicate the direction in which the mind ought to be disciplined.

Likewise the distinction between primary and secondary qualities is now a distinction within experience. It is important to consider how, in the present context, the two kinds of qualities are related. The former represent what thought attributes to objects ; the latter represent qualities that cannot be attributed to objects but to the self only. Obviously both qualities are apprehended by the senses and both, therefore, are within experience. But primary qualities are the representatives of matter within thought. Then matter as known consists in certain modes of thought. Therefore, the sharp distinction between the two kinds of qualities, made in the interests of removing anthropomorphisms from physics, remains a distinction made within mind. Of course, there is no suggestion that this distinction between qualities is illusory. The point is, I think, that the difference between qualities is recognized to be functional. Primary qualities are related to secondary ones as matter is related to mind.[19] The two differ as self-knowledge differs from knowledge of that which is other than the self. The ontological distinction between mind and matter can, again, be regarded as an extrapolation of this noetic distinction. However, the earlier sharp ontological dualism needs to be revised in the prescnt context.

When Arnauld questions Descartes closely as to whether he does indeed know mind and body as two complete (and independent) substances, Descartes is driven to suggest a curious modification of his doctrine. Mind and body, he says, may be regarded as " *in*complete substances viewed in relation to the man whom they compose ; but considered separately, they are com-

[18] *Cf. Principles* III, pp. 44-47. He writes, " je desire que ce que j'écriray soit seulement prise pour une hypothese, laquelle est peut estre fort éloignée de la vérité ; mais encore que cela fust, je croiray avoir beaucoup fait, si toutes les choses que en seront déduites, sont entièrement conformes aux experiences ; car si cela se trouve, elle ne sera pas moins utile à la vie que sil elle estoit vraye ". *Principles* III, 44. A & T, vol. 9, p. 123. And Balz, *op. cit.*, p. 358, notes Baillet's remark : that Descartes considered the sciences to be romances about nature.

[19] This point is discussed by Balz, *op. cit.*, Ch. 26.

plete substances " (A. & T., vol. 9, p.173). This does not mean, as I take it, that thought is extension (or vice versa) in any sense ; still, the two may be said to be the same in that they both belong to, or are parts of, a more inclusive unity. This kind of unity is called a " unity of composition " (O.R. VI). Thought and extension, then, are judged to be completely independent only when they are compared with each other. When compared with the man, though, both are seen to be subordinate parts of the whole organism. Thus man, compared with them, is the more complete and independent reality : man, by this account, is the real substance ; the science of physics presents us with a curious situation in which one aspect of human nature is having an insight into another aspect of this nature. Essence and existence, thought and body, as seen in at least the one privileged instance of the human substance, are known to be a unity, for in that instance each is a subordinate and functionally distinct part of a substantial whole.

At just this point, the trend of Descartes' thought is seen most distinctly to be divided between mechanical and organic images. Just as the mind is regarded now as a collection of separate faculties, now as a substantial unity, so his view of man moved from the notion of an association of unlike substances each of which is wholly different from and " outside " the other to a doctrine of their substantial unity and functional difference. The consequences for a philosophy of science are that the object of science is regarded first as an independently existing external world, but latterly as the scientist's experience. And the final consequences of these two views are evidently almost as far apart as the outlook of Sir Isaac Newton compared with that of Sir Arthur Eddington or, perhaps better, the outlook of Galileo compared with that of Kant.

Conclusions

The results of this study, then, do not indicate that the ordinary view of the Cartesian dualism is incorrect, but it does indicate that this dualism is derivative, in that it is the reflection of a dualism within the mind, which in turn seems to be derivative from Descartes' methods of clear and distinct ideas. Secondly, it indicates that Descartes' metaphysics is not merely the presentation of this dualism with all its implicit problems, for Descartes presents another modified but not fully elaborated form of this dualism. Since he found no way to verify the extra-mental referent of ideas, but held that the external thing is " not received into the mind ", and since he suggested that his physical theories be taken as likely and useful stories—scientific romances—, and finally since the ontological dualism was expressly modified in the case of the unity of composition which is man, it seems that Descartes moved toward developing a less mechanistic philosophy of experience. He alters the original dualism and leads rather directly toward the Kantian development. In sum, it is evident that the fertility and generality of Descartes' ideas outran his efforts to systematize them—a fact which is disclosed with especial clarity when one contemplates the relationship between his doctrine of the nature of the self and his theory of its metaphysical and physical environment.

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DISCUSSIONS

IS 'GOOD' A NORMATIVE CONCEPT?

In *The Methods of Ethics* Sidgwick interprets 'ultimate good on the whole for me' as meaning "what I should practically desire if my desires were in harmony with reason"[1] and says that 'ought' is a simple, indefinable concept.[2] In *Principia Ethica* G. E. Moore interprets 'good', in its ethical usage, as synonymous with 'ought to exist',[3] thus importing the problems connected with 'ought' into the notion of 'good'. This seems to me to be a confusion which, because of Moore's great influence, has had disastrous effects on subsequent discussion. In *The Moral Nature of Man*[4] I attempted to clarify the issues by adopting (though without explicit reference to Sidgwick) a definition of 'good' essentially similar to his, and by interpreting the moral 'ought' as referring to a requirement for fulfilment of potentialities rooted in the structures of human nature. It is evident, however, from Dr. Palmieri's comments on my discussion,[5] that there is still considerable confusion concerning this conception of 'good' (which I think is Sidgwick's as well as mine) and I should like to attempt further to clarify and defend it.

In the passage quoted by Dr. Palmieri I have offered as a definition of 'good' the statement

> 'x is good' is equivalent to 'x is a reasonable object of a favourable attitude'.

This is clarified by definitions of 'favourable' and 'reasonable' and by reformulations of the definition in less dogmatic language. These might be summed up by restating the definition as

> 'x is good' = 'x is an object toward which human attitudes are favourable so far as they are formed under the influence of enlightened understanding of the object and of one's self and of the relation of the object to one's self'.

I think that the reason why Dr. Palmieri finds difficulty with my definition as first formulated, in spite of the clarifications which follow it, is because he is unable to believe that I mean what I say, since he thinks that acceptance of the definition would imply that "good and bad are merely subjective". He says (p. 358)

[1] *The Methods of Ethics* (seventh edition), p. 112.
[2] *Ibid.*, p. 32.
[3] *Principia*, p. 17.
[4] New York: The Ronald Press, 1952.
[5] This journal, October 1956, pp. 355-358.

> And since we can have enlightened understanding about objects which are supposedly bad, what is the distinction save perhaps that, as matter of psychological fact, enlightened understanding of some objects leads to a favourable attitude toward those objects and enlightened understanding of other objects leads to an unfavourable attitude ? Though some philosophers might be willing to assert that this is all there is to the matter and hence that good and bad are merely subjective, I cannot believe that Garnett's view is this.

My reply is that, in the ordinary and general usage of the terms, the distinction between ' good ' and ' bad ' refers precisely to this psychological fact, i.e., to the opposing kinds of attitude toward an object that may arise from enlightened understanding ; but this does not make the distinction " merely subjective ". It eliminates from the concept of good all direct reference to an ' ought '. It means that there is no intuitive certainty as to what is good, but that statements about what is good are statements about inductive probabilities based on knowledge of human nature and of the thing concerned. It allows us to recognize that what is *good for* one person may not be *good for* another, and that what *seems good* to one person may not *seem good* to others. It assumes, however, when it pronounces anything good, that human nature is so far basically the same in all those to or for whom it is said to be good, that enlightened understanding of all that is relevant to the formation of attitudes would produce the same favourable attitude in each of them. To say simply that X is good is therefore (upon this interpretation of ' good ') to make a general and objective statement about the relation of X to certain general tendencies of human nature.

This interpretation of ' good ' needs to be defended, on the one hand against those who object to any cognitive content in the concept, and, on the other hand, against those for whom the cognitive content seems to contain an ' ought '. To the former we may briefly reply that the word ' good ' is used, as the *Oxford Dictionary* says, as " the most general adjective of commendation in English ", and that no adjective can so function unless it not only expresses and requests a favourable attitude but also claims that such an attitude is " reasonable ", i.e., that enlightened understanding of the facts relevant to the formation of the attitude would tend to make it favourable.

If the claim to definable cognitive content in the above psychological definition of ' good ' be attacked with G. E. Moore's weapon of the " naturalistic fallacy " there are two points that should be made in reply : 1. The definition given shows why this line of attack appears to be cogent against every other naturalistic definition. Whatever other naturalistic definiens is offered in a definition of ' good ' we can always point out that it is not self-contradictory to say of that which is referred to by this definiens that it is not " good " in the sense of our definition, i.e. that it is not something

towards which human attitudes are favourable so far as they are formed under the influence of enlightened understanding, i.e. are "reasonable". 2. On the other hand, it does appear self-contradictory to say of something that it is reasonable to adopt a favourable attitude towards it (i.e. that enlightened understanding of all the relevant facts tends to induce such an attitude) but that the thing in question is not good. If 'good' is an adjective of commendation then what more can be required to commend a thing that is not involved in the statement that enlightened understanding of all the relevant facts would induce a favourable attitude to it?

The adjective 'good' must therefore be recognized as having at least this element of cognitive content, that it claims the reasonableness of a favourable attitude toward that to which it is applied. Many, however, feel that this is not sufficient. 'Good' seems to have normative implications. Thus G. E. Moore assumes that, at least in its ethical usage, it is a synonym of 'ought to exist', A. C. Ewing finds it in the closely related notion of 'fittingness',[6] and Charles Stevenson rejects any sharp distinction of 'right' and 'good'[7] and so finds in 'good' (in the ethical sense) the imperative element of meaning conveyed by the moral 'ought'. It is usual to recognize that 'good' does not directly imply 'ought to do', but it is very widely assumed that it, nevertheless, either conveys essentially the same sense as 'right' or at least asserts some condition from which norms of conduct can be deduced. It is this conviction that is expressed by the interpretation of 'good' as synonymous with 'ought to be' or, as by Ewing, "ought to be the object of a pro attitude".[8] This, however, is a very peculiar sort of 'ought', not equivalent to the moral 'ought' in 'ought to do', and has to be conceived as a non-natural property, with all the troubles that follow from that elusive conception.

If philosophers had adhered to Sidgwick's distinction between 'good' and 'ought' these troubles would have been avoided. Enquiry would have been turned from the meaning of 'good' to that of the unique concept of the moral 'ought' in 'ought to do'. Those who adhered to Sidgwick's view that this is an elementary simple concept would not have had to regard it as a non-natural property but as a distinctive feature of the human mind. Others might have analysed it into the description of a complex psychological relation. In any case ethics would have stayed on the track of psychological investigation of human nature where in the past the most useful work has been done—a path to which now it seems to be returning after wandering in the stratosphere of non-natural properties and in the wilderness of non-cognitive meanings.

But why did ethics take this false turn? Why have so many philosophers assumed that the meaning of 'good', whether cognitive or non-

[6] *The Definition of Good*, p. 152.

[7] *Ethics and Language*, p. 97.

[8] *The Definition of Good*, p. 148.

cognitive, must include an 'ought'? The answer, I think, is made clear by recognizing that 'good' asserts that a favourable attitude to the good object is "reasonable". I think it is a synthetic proposition to say "One ought to be reasonable", but there are few, if any, ethical propositions that command such general and unhesitating agreement. If a person believes something is good he believes that it is "reasonable" to have a favourable attitude toward it, in the sense that the most enlightened understanding of the relevant facts would induce and confirm a favourable attitude. And if he regards intelligence as the proper guide of conduct (as is almost universally the case) he recognizes the implications that a favourable attitude is the only proper attitude towards whatever he recognizes as good. The principle that one ought to be reasonable, firmly fixed as a basic assumption, thus carries the mind over from 'x is good' to 'x ought to be made the object of a favourable attitude' by a transition so natural that the 'ought to be' is confused as the meaning, or at least part of the meaning, of the term 'good'. This makes no difficulty for our practical ethical thinking, but when philosophers ask themselves what sort of a property this 'ought to be' can be, then the trouble begins. We have the invention of a distinctive sort of non-natural property; and with the rejection of this we have the rejection of the cognitive import of 'good'. The whole trouble is avoided, however, if we recognize Sidgwick's definition of 'good' and his distinction between 'good' and 'ought'. We can then concentrate on the psychological question of what is expressed or referred to by the moral 'ought to do'.

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PROFESSOR SMART'S "EXTREME AND RESTRICTED UTILITARIANISM"

In the *Philosophical Quarterly*, October 1956, Professor Smart contrasts what he calls the "extreme" with the "restricted" form of Utilitarianism. I wish to suggest that he does not make clear certain important features of his procedure.

1. Professor Smart makes a convincing case for the acceptance of extreme as opposed to restricted Utilitarianism, as an ethical theory. But what precisely are we accepting, and what rejecting, when (and if) we accept his case?

We may at first think we are accepting a more satisfactory form of the Utilitarian accounts of ethical foundations given by writers like Toulmin and Nowell-Smith. "A more modest form of Utilitarianism has recently become fashionable", he says (p. 344), and proceeds to show what he thinks to be difficulties in this, the restricted form of Utilitarianism. And again, at the end of his paper, he says: "If this is so [roughly, if I have made my case], restricted Utilitarianism collapses into extreme Utilitarianism. And no one could read Toulmin's book or Urmson's article on Mill without thinking that Toulmin and Urmson are of the opinion that they have thought of a doctrine which does *not* collapse into extreme Utilitarianism but which is, on the contrary, an improvement on it" (p. 354). Professor Smart inveighs against the view that moral philosophy can adequately be based "on the [moral] opinion of ordinary men" (p. 346) who, according to Toulmin and Nowell-Smith, are restricted Utilitarians. He urges instead the adoption of a more consistent and beneficent principle for the making of moral judgements.

2. I wish to suggest that Professor Smart is not distinguishing between two different procedures; procedures which, while logically independent, can and do both pass under the name of ethics or moral philosophy. I would suggest further that Professor Smart is not alone here: in a great deal of the literature of the subject, even, I think, in serious modern work on ethics, it is often possible to discern a vacillation between these two different procedures. We might distinguish these as (1) analytic (of moral procedure and discourse, either in general, or within a particular social group), and (2) recommendatory (of new and more beneficent criteria for moral judgement).

3. Now which of these are writers like Toulmin and Nowell-Smith doing? While we risk an over-simplification in saying one or the other of these things (for Toulmin, at least, is not innocent of the ambiguity of which I

shall presently accuse Professor Smart) we may say with some definiteness, I think, that both these writers are concerned to analyse how we do actually make moral judgements, and thereby to elucidate the logic of ethical reasoning and premisses. Their findings make them, in Professor Smart's phrase, restricted Utilitarians : they suggest that we do generally judge actions by rules, rules by consequences ; or that if this is not a conscious process, it *is* the account the philosopher and sociologist will adopt as most fitting the facts of moral discourse and procedure. Professor Smart admits this when he says : " the extreme utilitarian regards moral rules as rules of thumb and *as sociological facts* . . ." (p. 348).

4. But now notice a crucial word in the preceding paragraph : " they suggest we *do* judge actions by rules ". If, as it seems to me, this is what, or part of what, those writers whom Professor Smart calls restricted Utilitarians set out to show, it is certainly something about which they may be right or wrong—as an account it may be true or false. But what precisely does Professor Smart oppose to it ? " Surely it is more than likely that ordinary men are confused here [in thus making their moral judgements]. Philosophers should be able to examine the question *more rationally* " (p. 346). He then proposes extreme Utilitarianism as the more rational alternative. Now I want to say that in thus opposing extreme to restricted Utilitarianism, as though they were genuine alternatives, Professor Smart is making a misleading and improper contrast, for it is not proper to oppose a theory of *what is the case* by a theory of *what ought to be the case*, however important each may be in its own province. If restricted Utilitarianism were a series of recommendations for moral decisions, it would be proper to label it ' rational ' or ' irrational ', and oppose to it a more rational system. Or if, on the other hand, extreme Utilitarianism were an analysis of the foundations of ethics, it would be correct to hold it true or false, and oppose it to a less correct analysis. But neither of these suppositions is correct : Toulmin and Nowell-Smith, the restricted Utilitarians, are telling us that people *do* judge actions by rules (and that they discourse accordingly) : Professor Smart, the extreme Utilitarian, is telling us that it would be more rational if they were to judge them directly by consequences. Thus, since the opposition is not a proper one, *both* extreme *and* restricted Utilitarianism may be perfectly acceptable, since, though they are both " moral theories " (and here we see the ambiguity mentioned in §2), they are nevertheless logically independent of one another. The acceptance (or rejection) of one theory is (logically) unconnected with the acceptance (or rejection) of the other, though doubtless the turn of mind which disposes a man to accept one will also incline him to the other.

5. I am suggesting, then, that the writers to whom Professor Smart opposes himself (with perhaps the exception of John Austin) are not affirming the opposite of what he is affirming : their views, if anything, are complementary to his, while both are properly called moral theories. The view

which is opposed to Professor Smart's is that we *ought* to do an action which is generally optimific even if in this particular instance it is not itself optimific. Between such a view and Professor Smart's extreme Utilitarianism we have a genuine dichotomy, as we would also have between a restricted Utilitarian and someone who made the (sociological) assertion that, as a matter of fact, we *do* judge actions directly by consequences. But Professor Smart's is a mixture of the two sets of distinctions which, for the reasons I have indicated, I would venture to call an improper, or at least misleading, mixture.

Whether I am right or wrong in this has no bearing on Professor Smart's case for extreme Utilitarianism. As a recommendation it retains its integrity in the face of whatever validity these criticisms may have, nor are my criticisms intended to bear in any way upon extreme Utilitarianism so apprehended.

6. I have already suggested that the ambiguity between analysis and recommendation in moral philosophy is deep-rooted. It is surprisingly common to hear serious philosophers speaking uncritically of someone's "moral theory", meaning at one moment his account of the way men actually say and think they ought to act, at the next, his beliefs about how men ought to act. It is equally common to make objections, drawn from one side of the line, to a view whose logical location is on the other side of it. We have already seen the confusion inherent in such a procedure.

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CRITICAL STUDIES

Contemporary British Philosophy (Third Series). Edited by H. D. LEWIS. (London : George Allen & Unwin. 1956. Pp. xiv + 501. Price 35s).

Thirty years ago two volumes with the title *Contemporary British Philosophy* were published under the editorship of Professor Muirhead ; in them the philosophical giants of those days responded to the editor's request to state what they regarded as the main problem of philosophy and to outline their views upon it. It was in this way that such famous papers as Moore's *A Defence of Common Sense* and Russell's *Logical Atomism* were made public. In those days philosophers still readily admitted to their " isms " ; they were willing in such a volume to sum up the position from which their many articles in diverse journals had been written. As a result one can well go to those two volumes in order to discover the central tenets of the philosophers included therein.

The position is very different nowadays. It is notorious that many philosophers claim that they are adherents of no philosophical doctrines whatsoever, and even regard adherence to a philosophical doctrine as a sign of a fundamental misunderstanding of the nature of philosophy. Such philosophers as these cannot be expected to outline any position other than the position that one should not hold positions, and this topic has become a bit stale. It is true that such philosophers are very sparsely represented here, and that other philosophers, including the great majority of those appearing in this volume, still vindicate the propriety of maintaining philosophical positions ; but even these seem in practice unable or unwilling to do more than discuss some particular problem ; there seems to be nobody left under the age of eighty who is prepared to confess himself a rationalist, or empiricist, a neutral monist, a materialist, a logical atomist, a pragmatist, a realist, an idealist, or of any persuasion of similar generality. Perhaps this is not to be lamented ; the piece-meal tackling of small problems one by one is characteristic of our time. But it is amusing to find that in this volume the piece-meal approach is exemplified most strongly in the work of those whom one thinks of as more conservative in their general philosophical attitude. The only philosopher in these pages who will advocate systematic philosophy *totidem verbis* is Mr. Hampshire, the youngest contributor to the volume ; but it must be admitted that he would probably have been regarded as a wolf in sheep's clothing by the older systematic philosophers.

The philosophical standard of the essays in this volume is on the whole high, as has been indicated. But, the majority of them are simply discus-

sions of a special problem which might have appeared as such in any quarterly journal of philosophy. Though the directive of the present editor was less rigorous, many of the contributors have obviously had an uneasy feeling that they ought to have lived up to the Muirhead directive; they have prefaced their papers with a protest that the subject they discuss interests them very much, or they have claimed that the rather specialised discussion in their papers will serve as an example of the methods of philosophical thinking that they employ. But all this should be true of any of their writings. This, through no fault of editor or contributors, is mainly one more volume of essays on various philosophical and logical issues; it is in that way at least truly representative of contemporary philosophy in Britain.

However, some few of the articles do come fairly near to being confessions of philosophical faith; these have the right to be discussed first and in greatest detail.

Dr. Waismann's paper is entitled *How I see Philosophy* and is written in the colourful style which he has adopted of late. Philosophy, he tells us in the first half of his paper, is the criticism and dissolution of all that constricts our thought, including, but not exclusively, linguistic misconceptions. But Waismann's aim is not the merely negative one of abolishing confusion (as Wittgenstein often seemed to maintain) but the positive one of gaining deeper insight. Philosophical arguments should lead to this deeper insight, and, since insight cannot be demonstrated, the arguments leading to it cannot be expected to be demonstrative in character; they can only facilitate our seeing things in a new light. In the second half of his paper Waismann tries to make it clear how inconclusive philosophical arguments inevitably are and, by means of examples, to show what he means by "seeing things in a new way". These examples of seeing new aspects are very well done. By and large, Waismann's picture of philosophy is intermediate between the purely therapeutic view of philosophy held by Wittgenstein —rescue operations on behalf of bottled flies—and the view characteristic of modern Oxford philosophy that in addition to the more therapeutic labours there is a great deal of useful work to be done on the healthy use of language by people who are not puzzled in a "metaphysical" way, the view that a philosopher may legitimately be interested in the different types of expression that we use, the different sorts of distinction that we draw and the different purposes that language subserves for their own sake. But presumably Waismann does not wish to forbid people who do this to call themselves philosophers; presumably he does not wish to deny that Mill was a philosopher when he argued in favour of political liberty. He has tried to make us understand better the sort of philosophy that he does, to deepen our insight into it; the attempt is no less successful because there still remain many with a fixed determination to see nothing but verbalistic folly in the ways of those whose philosophical interests at all resemble those of Dr. Waismann.

Professor Paton is emphatically not to be included among those who cling so obstinately to their blinkers. In his very extroverted philosophical autobiography he is tolerant and urbane ; the shrewd wisdom of his remarks on his fellow-philosophers is no less generous for an occasional touch of irony. Like Hodges in his essay in this volume, he regards it as an unfortunate accident that the earlier practitioners of linguistic analysis were frequently positivists or dogmatic empiricists ; he regards linguistic analysis with benevolent interest and considers that its fortuitous conjunction with positivism is quickly coming to an end. Paton also gives us a glimpse of the immense enthusiasm, patience and grinding labour which go to the making of a Kantian scholar ; it is frightening to read that though he had read Kant's *Critique of Pure Reason* every year (except for the war years ?) from 1911 to 1927 he regarded himself as only beginning his study of Kant in the latter year.

Professor Popper, in his *Three Views concerning Human Knowledge* discusses the huge theme of the nature of scientific knowledge. His paper is very vigorous, very typical of its author, and very stimulating. Popper distinguishes three views of the nature of scientific laws ; on the instrumentalist (or operationalist, or phenomenalist) view they are regarded as formulae to be used in making predictions and getting things done, and it is pointless to raise the question of their interpretation or their truth or falsity as accounts of what the world is like ; on the essentialist view they are true statements about the world, whose truth can be known with certainty and which give us information about the essential nature of things ; on the view that Popper holds, and which he calls the Galilean view, laws are indeed true or false accounts of what the world is like, but they cannot be known to be true with absolute certainty nor do they tell us about essences of things. It is pleasing to the amateur to find an expert like Popper denouncing the Principle of Complementarity in the course of his argument and suggesting that recent stagnation in nuclear physics may be partly due to it ; the principle is regarded by Popper as being made acceptable to those who accept it rather by instrumentalist metaphysical theory than by physical considerations. This is a most enjoyable paper. But I would diffidently query whether we should try to interpret all scientific laws, theories and principles as being epistemologically of the same character. Less diffidently I must express great doubt whether Aristotle was the clear-cut essentialist that Popper makes him out to be. Aristotle suffers greatly from his key terms being overlaid with the metaphysics of countless succeeding generations of philosophers ; he was also unwise in not always making it clear to himself or his readers that his views on the nature of mathematics and syllogistic are not applicable to physics without alteration. But I think that for Aristotle the " essence " of an eclipse was very much what we might now call " what really happens when there is an eclipse ", and I venture the unverifiable prediction that if Popper ever meets Aristotle they will

get on famously after the removal of a few terminological difficulties.

Mr. Hampshire, in his *Identification and Existence*, argues that philosophy ought to be a systematic enquiry into the necessary relations between such fundamental and general notions as those of existence, knowledge, identity and truth. On the basis of such a systematic enquiry he believes that one may come to reject some of the existential implications of a given form of thought and statement and that existential conclusions may therefore emerge from philosophical enquiry. But he differs from traditional rationalists in admitting that there can be no way of proving that any systematic relationship of basic notions that may be accepted is the only, the right, way of relating them. Mr. Hampshire develops this exciting and unexpected thesis with great skill and lucidity ; this is therefore one of the most interesting papers in the volume. He illustrates his position by suggesting that anyone who took a certain general view of the relation of the concept of identity to that of existence might decide that though he could understand the way in which language is used to talk about God, and could distinguish between good and bad arguments and true and false statements in this field, the existential implications of statements about God were misleading. It would be absurd to expect Hampshire to show us that his thesis is true in a short paper ; it is clearly up to him now to write a systematic treatise. A non-systematic philosopher of analytic temper might have made the sort of point that Hampshire makes in his illustrations in much the same language ; we need now to be shown that such points are better seen as part of a systematic enquiry.

Dr. Ewing's paper is entitled *The Necessity of Metaphysics*. He tells us that he admires the Oxford idealist school, for its general conception of philosophy, and the methods of Moore and Broad (which are, however, surely very different from each other). He would like to see the Cambridge methods used in building up a philosophical system in the spirit of the Oxford idealists. But instead we have suffered the frightful horrors of Wittgensteinian anti-metaphysics ; so Ewing now comes gallantly to the defence of that affronted science. Now it is surely a good thing to know your enemy : Ewing tells us that when he first moved to Cambridge he misunderstood Wittgenstein a great deal, but he seems still not to be within a thousand miles of understanding the philosophical positions that he so much dislikes. Thus he says : " I was and still am much upset by the modern tendency to treat philosophy as if it were just a discussion of linguistics. I do not think common-sense to be verbally inspired, and therefore I do not think that the arguments from the popular usage of words are nearly so important as they are popularly supposed to be ". Who on earth is Ewing talking about ? Wittgenstein was apparently already insisting that language was not the subject-matter of philosophy when Ewing first went to Cambridge (*vide* Moore, *Mind*, Jan. 1954, p. 5), and Waismann makes the same point on page 470 of this book. Who of importance has said when that common-

sense is verbally inspired and what does it mean to say so? Is Dr. Ewing attacking the propriety of ordinary usage or the truth of the opinions of the man in the street, for example? What is it about philosophy that makes the author of so admirable a critical work as *Idealism* apparently incapable of beginning to understand the views and methods of so many of his contemporaries?

Professor Hodges contributes a most interesting paper entitled *What is to become of Philosophical Theology?* Taking traditional philosophical theology to consist of proofs of the existence of God, descriptions of his nature, and examinations of theological language (as in the theory of analogical predication), Hodges asks what a philosopher who is professionally interested in religion but is distrustful on philosophical grounds of the traditional procedures of philosophical theology can do; he then outlines a programme in which logical analysis of religious language (rather than the language of philosophical theology) plays a major part. It is not the novelty of this programme that makes this paper impressive so much as its admirable temper and the intellectual candour with himself and his readers, so unusual on this topic, that Hodges displays. From the evidence of this paper alone it would be impossible to tell whether Hodges is a theist or a civil-tongued atheist; and that is as it should be, but most rarely is, in a paper of this character. Hodges, indeed, not having read Hampshire's paper, maintains very plausibly that only old-fashioned metaphysicians who believe that there can be philosophical proofs and disproofs of God's existence can express their theological opinions in a philosophical paper without irrelevance.

Professor Mackinnon writes on *Ethical Intuition*. He starts by saying that he means by intuitionism the sort of theory that Ross holds, according to which "my knowledge of my obligation to fulfil my undertakings is of the same order as my insight into the necessary properties of a straight line in Euclidean space". By the end of the paper the intuitionist has become one who "stresses the uniqueness of the moral consciousness" and defends the "peculiar dignity of spiritual experience". The professional theory of cool men like Richard Price and Sir David Ross has become a romantic *credo*. Between these two poles are some interesting comments on freedom: "May we not even venture the paradox that freedom is something created by language?" he asks; in the context of his paper one can at least begin to see his point.

Mr. Mabbott writes on *Freewill and Punishment*. Having rather too easily rejected doubts about the possibility of reconciling responsibility with the truth of science and having shortly discussed the positions of Hobart and Bradley, Mabbott examines the pragmatist views expressed by Nowell-Smith and Ebersole on this topic; he delivers some shrewd and damaging blows. He ends by accepting the position, which he attributes to Hartmann, that "there cannot be a criterion of free action, for a criterion would inevitably be deterministic". If Mabbott means by this that a logical criterion

is akin to a cause he is surely wrong ; what else he may mean I do not know. Mabbott ends with a more general section in which he rejects the view that the sole proper task of the philosopher is linguistic analysis, and that linguistic analysis on its own can solve all philosophical problems. Why he says this with so much vehemence is hard to understand, for surely few would nowadays wish to contradict him dogmatically, though the Vienna circle held this view in the 1930s. If, as Mabbot thinks, one has to hold this view to be contemporary, there are very few contemporary philosophers represented in this volume. If, as I believe that Mabbott would admit, linguistic analysis can be of some use, let us get on with it and then see what else remains to be done.

Mr. Kneale's essay on *The Province of Logic* is an unexpectedly technical piece of work for a volume of this character. Those of us who have given up the struggle to keep up with the development of mathematical logic will find it difficult. But it is also interesting and, I believe, important in more than a technical way. First he shows how to develop the restricted calculus of propositional functions without axioms ; he then defines formal logic in terms of Carnap's notion of " involution ". Next he embarks on the thorny question of how to distinguish logical constants from other expressions in a way less lame than the common one of giving an admittedly incomplete list. He suggests that " formal (or logical) signs are those whose full sense can be given by laying down rules of development for the propositions expressed by their help ". This is surely a most sensible move which is worth careful investigation. Kneale's valuable discussion as so far reported is sandwiched between shorter sections deploring the use of such expressions as " the logic of colour words " ; he cannot understand how such enormities can be committed, but tentatively suggests that they are due to confusions about the notion of analyticity. But there is traditionally a part of logic (not covered by Kneale's definition) that is called the logic of terms, in which you distinguish by their logical character abstract from concrete terms and so on ; surely those who speak of the logic of colour words merely wish to suggest that one can go much further along this line than did traditional logic, and that colour words, for example, have distinctive logical features of their own. This is both true and important.

Professor L. J. Russell, in a paper entitled *Belief and Action*, has as his main thesis that our beliefs, especially our moral beliefs, depend on the kind of life that we want to lead and that with a change of our ideal picture of life a change of beliefs is likely to be conjoined. The point is illustrated by changes in people's attitude to usury and birth-control which followed changes in their mode of life and in their aspirations. If for ' beliefs ' we substitute ' recognised moral rules ' and for ' kind of life we want to lead ' we substitute ' our conception of happiness ' we surely have here worked out an orthodox utilitarian account of how moral rules might legitimately vary. But it is good to have the thesis worked out with genuine and important examples.

In his discussion of *Philosophical Scepticism* Professor Ayer says that the philosophical sceptic is best understood not as making the possibly senseless and, if significant, false claim that we can know nothing, but as asking how our evidence can ever justify us in giving a guarantee, as we do when we say that we know. I agree with this point, but when Ayer goes on : " Now to say that we over-value our evidence is to suggest that we might have better evidence that we do ; but the peculiarity of the sceptic's position is that he rejects this suggestion ", and maintains that this peculiarity is logically absurd, I cannot follow him. I imagine that Ayer would agree with, or at least sympathise with, the view that anyone who was prepared to stake the life of his family on the truth of his statements was doing something that no conceivable evidence could justify, that anyone who did so would be over-valuing any conceivable evidence ; the suggestion that no conceivable evidence can justify the giving of a guarantee is surely intelligible on the same lines, though no doubt it involves the same over-seriousness about guaranteeing that Prichard is alleged to have shown in the case of promising by refusing to give one since circumstances might always prevent him from keeping it. If we conceive of a claim to knowledge as a guarantee, the sceptic is not guilty of the confusion of formally recognising say three classes but never counting any qualifications as sufficient for the first. Having illustrated his general point with references to scepticism about induction, Ayer goes on to find a special point in scepticism with regard to beliefs which seem to be neither inductively nor deductively grounded, of which our beliefs in other minds and physical objects are given as typical and important cases. The ease and lucidity of this paper will surely evoke an envious admiration in most of its readers.

In his paper *The Rational and the Empirical* Professor Aaron is concerned to argue that the absolute distinction between reason and experience as sources of knowledge is untenable ; the rational and the empirical, he holds, are aspects of human knowledge, relatively but not absolutely different. In the course of his argument Aaron sets out to show that, though in a way logical and *a priori*, even such principles as the law of contradiction are to some degree accepted because of the nature of our experience. Surely Aaron is right in not wanting to count such principles either as pure intuitions of reason or as wholly arbitrary conventions. But to say : " this principle [*sc.* of contradiction] is acquired through the impress of our world upon us. That world is a world in which things are separate, each thing is itself and not another " will not do. Not everything is linked to something else, but surely mountains, for example, are notably not separate from the surrounding valleys and plains ; and to say that *our* world impresses itself upon us as one in which each thing is itself and not another is to suggest that some other world might impress itself upon as as one in which each thing is not itself but is some other thing. But perhaps another world might be such that we should find the law of contradiction hard to employ,

and if this is what Aaron means he will find some promising lines suggested for him in Waismann's *Alternative Logics* in the *Proceedings of the Aristotelian Society*.

In his *Self-activity and its Modes* Professor Campbell, *inter alia*, gallantly argues once again his thesis that we can only act freely in moral contexts, being impelled in all others by the strongest desire. I am still unable to see why from his own point of view he does not find it evident that anyone who acts morally must desire more strongly to do so than to do anything else, though I agree that so far from being evident it is false. Further, if when I desire (as we would say) passionately, more than anything else in the world, to do something, but abstain and act otherwise through timidity and lack of self-confidence, bitterly chagrined as I act and subsequently eternally mortified, if in those circumstances I am acting in accordance with my strongest desire, it can only be so in that empty sense of 'strongest' used by psychological hedonists, which makes it not false but senseless to speak of acting otherwise. I am entirely opposed to Campbell's views and methods; but I admire his independence from fashion and I am sure that it is good for all of us who philosophise in a different manner from his to read him.

Professor Price in *The Argument from Illusion* shows with characteristic ingenuity that the argument cannot be validly used to do the tricks that it was supposed to do; his colleague Professor Ryle tackles *Sensation* and such tricky notions as that of sense-impression for the third (or fourth?) time. Neither of these closely-knit discussions can be summarily reviewed with profit; I would merely record that when Ryle suggests that the language of looking and seeming is always used to make a guarded assertion, as it sometimes is, he is quite wrong, since we may say that something looks so and so in a statement that explicitly denies that it is in fact so, as when we say "The road ahead looks flat though I know that it is quite a steep slope up".

Professor Acton re-examines the notion of *Political Justification*, having principally in mind the problem of justifying obedience or disobedience to authority; he lays great weight on the fact that disobedience may take the form of "passive obedience" as well as of revolution. Professor Barnes, in his *On Seeing and Hearing*, argues that seeing and hearing are experiences, not actions or states of mind or anything else. Father Copleston gives an account of *Philosophical Knowledge* in which he maintains that such knowledge can only be analytical, explicit awareness of what the non-philosopher implicitly knows, but is none the worse for that; he makes it clear, however, that he thinks that a great deal more exciting information is implicitly contained in ordinary utterances, to be mined out by philosophers, than most analytical philosophers ever expect to find there. Professor Findlay, in *An Examination of Tenses* discusses, as a specimen of his philosophical technique, the work done by tenses and alternative ways of getting the

same job done, concluding that tenses in fact do the job best. Professor Lewis, the editor, also contributes a paper entitled *Worship and Idolatry*; it is likely to appeal more to the theologian than to the philosopher.

Looking at the book as a whole, we may fairly say that the general standard of the contributions is as high as one could reasonably hope, though inevitably some of the papers read as though prompted by an editorial request rather than by an urge to communicate; contemporary British philosophy may be said to be in good health on the basis of this volume. The variety of view is sufficient to warn anyone against attempting to generalise too precisely about British philosophy; certainly what some Americans call simply "British philosophy" is very sparsely represented.

As a statistical appendix I note that only Ewing from Cambridge, of which place he is not typical, and only Hampshire from the under-fifties at Oxford, are included. The effect of the first world war is noticeable through the absence of any philosopher between the ages of sixty and sixty-nine; the oldest (L. J. Russell) is 72, the youngest is 42. The editor promises us that we may expect another volume in the near future; if so, it is to be hoped that it will be mainly devoted to philosophers in their twenties and thirties; we know what older people think and, as Paton says in this volume: "philosophy is an adventure in which a man should risk making a fool of himself when he is young; he can do it so much more gracefully than later". Such a one might even risk a general statement of his philosophical position.

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Philosophy, Politics and Society. Edited by P. LASLETT. (Oxford : Basil Blackwell. 1956. Pp. xv + 184. Price 18s).

Of the ten articles collected in this book, seven have been published elsewhere and the other three now appear for the first time. They are intended to form a representative selection of work done on political philosophy in this country since 1945, in a fairly wide sense of the word ' political '. They vary considerably in quality, as well as in their subject-matter and their method of treating it.

Oakeshott's well-known inaugural lecture on *Political Education* falls into two parts, the first about politics in general, and the second about the kind of political education that is appropriate in the light of the conclusions of the first. He attacks two common views of politics, one which regards it as an empirical activity, and one which regards it as the attempt to apply in practice certain fundamental principles or " ideologies " (e.g. freedom, equality, democracy). Purely empirical political activity, i.e. activity without principles or policy, is strictly impossible ; but it is often held, Oakeshott says, that political activity consists in a series of specific and particular activities preceded and guided by an ideological activity—we choose our ideology and then try to discover how best to embody it in practice.

This view of politics is mistaken, Oakeshott thinks, because it is too abstract—it does not reveal " a self-moved manner of activity " (p. 6 and *passim*). Political ideologies do not occur in a vacuum, but as a result of meditating on an already existing manner of political activity. " So far from a political ideology being the quasi-divine parent of political activity, it turns out to be its earthly stepchild " (p. 8).

If we overlook the awkward implications of this genealogical metaphor, we may well ask why it shonld not be both. If anyone has ever seriously supposed that political ideologies are invented without any regard for political activities as they are in fact carried on, he is no doubt mistaken ; but the fact that ideologies come into existence in certain historical contexts does not prove that they have no power to influence events and actions in widely different contexts. What Oakeshott really wants to argue, I think, is that reliance on ideologies is a dangerous and inadequate method of behaviour as compared, in particular, with a policy of " exploring and pursuing the intimations of a tradition of behaviour " (p. 14) ; but he obscures this at times by suggesting that these are rival descriptions or understandings of political activity, instead of rival recommendations for its conduct.

Oakeshott is, however exaggeratedly and obscurely, stressing something that is important, viz. that most, if not all, political problems are of the form ' Where do we go from here ? ' To pose the problem, instead, as ' Where would you like to be ? ' is liable to lead to a pursuit of unattainable ends for the sake of an abstract theory : we are indeed never offered " the blank

sheet of infinite possibility " (p. 2). But when all that can be said on this point has been said, the value of " ideologies ", properly used, has not been seriously challenged. It is all very well to talk about the need to rely on tradition; but the question will still arise ' On which tradition should we rely ? ' There is, for example, a radical, as well as a conservative, tradition in this country ; how, if Oakeshott is right, could we ever decide between radical and conservative policies ?

The same exaggeration of a truth appears in Oakeshott's views on political education. " The study of another people's politics, like the study of our own, should be an oecological study of a tradition of behaviour, not an anatomical study of mechanical devices or the investigation of an ideology " (p. 19). But why should it not be all three ? The " anatomical study of mechanical devices " (by which is apparently meant the analytical study of political institutions) has its uses, even if it does not tell us all we need to know about politics : of course knowledge of anatomy alone will not make a good doctor, but it does not follow that a man can be a good doctor without it. Similarly with " the investigation of an ideology " ; we shall not, of course, fully understand the causes of the French Revolution simply by reading Rousseau—but neither shall we understand them without reading him.

The general thesis of Weldon's *Political Principles* will be familiar to readers of his book *The Vocabulary of Politics*. Political philosophy consists, not in recommending any set of political principles for general adoption, but in second-order talk about political institutions, i.e. in studying the language which politicians and ordinary men use when talking about politics. People have been misled into believing the first account by the natural tendency of philosophers to use their own political principles and opinions as objects of their analysis. Moreover, political principles cannot be proved or established philosophically or in any other way ; for the function of statements asserting such principles is to put a stop to requests for reasons and explanation.

Weldon gives no reasons for his claim that political philosophy does not attempt to establish political truths or principles ; and it is clear that much that is commonly called political philosophy does in fact involve such attempts. What is not clear is the extent to which Weldon's point is anything more than a verbal one. Plato and Hobbes, to take two obvious examples, argued that certain political institutions and activities are better than others. If Weldon wants to show that such arguments are necessarily pointless and misguided, he will need to do more than assert an unsupported dogma about the nature of philosophy. But if all he wants to say is that they should not be called ' political philosophy ', why should this be thought important ? Of course, analysing political ideas is different from recommending courses of political action, and the one should not be confused with the other ; but this is no reason why both, in certain circumstances, should not be called philosophical activities.

What Weldon is, I think, trying to maintain is not merely that the systematic attempt to recommend political principles or policies on rational grounds should not be called ' philosophy ', but that it should not be undertaken at all. Each of us has the principles he has because he has decided to have them ; and it is wrong to say that some principles have a logically or philosophically superior status to others. But people do, in fact, argue about political questions ; and normative political philosophy is simply the attempt to conduct such argument as systematically and fully as possible—what then is objectionable about it ?

Miss Macdonald's paper on *Natural Rights* (first published in *Proceedings of the Aristotelian Society* for 1946-7, not 1947-8 as stated by Laslett) is designed to clarify the meaning of the assertion " that there are some rights to which human beings are entitled independently of their varying social relationships " (p. 46). Her conclusion is that assertions about natural rights are more like records of decisions than statements of fact, but that their authors have usually failed to recognise this ; and " there are no true or false beliefs about values, but only better or worse decisions and choices " (p. 54). She rejects the traditional belief that a man's natural rights spring from the fact that he is essentially rational, and holds that this is simply a confused way of saying that all men ought to be treated according to certain fundamental rules and conditions, irrespective of the nature of the state or society to which they belong.

Miss Macdonald's rewriting of the natural rights theory is more satisfactory than her historical references to its earlier defenders. It may perhaps be thought pedantic to object to " For Hobbes, man's only natural right is self-preservation " (p. 45) ; but the treatment of Kant is decidedly unsatisfactory. It is true to say that the basis of men's intrinsic worth for Kant is that they all have reason. But reason, in this context, does not mean " the capacity to understand abstractions " (p. 42), for it is practical, not theoretical, reason that is here in question ; nor is it simply a matter of practical intelligence, of " knowing-how " as opposed to " knowing-that ", in which respect, as Miss Macdonald says, there is not an unbridgeable gulf between men and other living creatures. Man's " possession of reason " here means his ability to set ends or purposes before himself and to take steps to achieve them ; in this, according to Kant, he is radically distinguished from the rest of animal creation, which can only pursue ends supplied to it by Providence. It is thus a mere caricature to suggest that, for Kant, or for any of the classical exponents of the natural rights theory, " the worth of human beings is determined solely by their I.Q's " (p. 44).

W. J. Rees, in *The Theory of Sovereignty restated*, attempts to rehabilitate a concept which has gone out of fashion in political theory. It is often held that the traditional theory of sovereignty is invalid, and the concept itself pointless, because it cannot provide unambiguous answers to such questions as ' Is it necessary that there should be a sovereign in every state ? ' or ' Where in the state is the sovereign located ? ' In Rees's view these ques-

tions cannot be answered, not because the concept of sovereignty is meaningless and the questions consequently not genuine ones, but because each such question really consists of several questions which have not been properly distinguished—mainly owing to serious ambiguities in the words 'sovereignty' and 'state'. He clears up these ambiguities by distinguishing six uses of 'sovereign' and three of 'state'; but recognises that the resulting analysis, though it removes the ambiguities, leads to an impossibly cumbersome and unserviceable theory. He proposes, therefore, that the use of the concept of sovereignty should be restricted to those cases in which it performs a function that cannot be adequately performed in any other way; and this, in his view, leaves us with three types of sovereignty, legal, coercive, and influential. These three concepts can, in Rees's view, be successfully applied to modern political conditions; and he argues powerfully that they enable us to refute the more serious practical objections to the theory of sovereignty, such as its incompatibility with political democracy, federalism, social welfare legislation, and international law.

Rees on the whole makes out his case for the continued, but careful, use of the concept of sovereignty in the analysis of political institutions; it would be much harder to maintain—and perhaps Rees would not wish to do so—that the concept is of any value in the discussion of practical political questions. The one context in which it is commonly so used and in which live issues still exist, that of national sovereignty, is one about which Rees has little to say (and what he does say seems to confuse the question of sovereignty within the state with that of the sovereignty of the state). Certainly the idea of national sovereignty needs more philosophical analysis than it has so far had.

A. M. Quinton in his paper *On Punishment* tries to resolve the apparent contradiction between the retributive and utilitarian theories of punishment by saying that the two theories provide answers to different questions, the former to the question 'When (logically) can we punish?' and the latter to the question 'When (morally) may we or ought we to punish?' The truth of the retributivist's claim that punishment is justified only by guilt lies in the fact that, unless a man is guilty, any treatment that is meted out to him in the form of fines, imprisonment or execution is not properly called punishment. Deliberate 'punishment' of the innocent is morally wrong, on this view, because it involves a kind of lying—saying or implying that the man is guilty when you know him to be innocent. Utilitarian considerations apply primarily to the laying down of certain rules which attach punishment to acts of a certain kind. But given these rules, the question of whom to punish in any particular case is decided, not by reference to the utility or disutility of punishing any particular person, but by seeing who has broken the rule(s). Once a man has been found guilty of an offence, however, utilitarian considerations are legitimate once again in exercising the court's discretion as to the type or gravity of the sentence to be imposed.

Quinton has in a very few pages cleared up many of the confusions which have beset discussions about the theory of punishment. One's main doubt is whether he has done full justice to the complexity of the classical retributive theory as expounded, for instance, by Kant. Parts of this theory (e.g. the claim that punishment should be equal to—or, less strongly, proportionate to—the offence) are in real, not merely apparent, opposition to utilitarianism ; it does, in fact, involve some moral, as well as logical, claims, even if retributivism " properly understood " (p. 83) does not.

The main thesis of Mayo's *Is there a case for the General Will* ? is that " whatever reasons may be found to account for the utility of the concept of the individual will may also account for the utility of the concept of the general will " (p. 93). To which we may first reply that, if this is all that can be said for the general will, it really does not amount to very much ; for, whatever its uses, the concept of the individual will has undoubtedly been the source of many muddles and errors. But if we leave the individual will out of it, and concentrate on what Mayo says in defence of the general will, we shall still not find his argument particularly cogent. The concept of the general will, he says, helps to clarify and establish the essential unity of the state—a unity which is dependent on a common intention or purpose, which intention or purpose is in turn emphasised by the term ' will '. But while many associations have a common purpose, which is stated in the association's list of rules, most states do not have any such generally recognised and promulgated purpose. Mayo says that in large societies such as a church or a state, " the unity becomes hard to discover, because it becomes difficult to say what the common purpose is " (p. 95). But the belief that no association can have a unity if it has no common purpose is quite unfounded ; nor could a common purpose the nature of which was differently understood by different people serve as a guarantee of unity. There is no need to labour this point further, since the criticism needed is quite adequately provided, later in this book, by Laslett's article.

Mayo proceeds to argue that the citizen's obligation to obey the laws of the state and their executors cannot be explained without reference to the general will, i.e. to the unity of the state, as justifying these laws and the rules according to which state officials act : for I owe obedience to the latter only in so far as they act in their official capacity, as opposed to their own private interests. But all this depends on Mayo's belief, for which he offers no evidence, that " there is no duty to obey a person with whom I have not entered into a voluntary obligation " (p. 96). Once this is granted, of course, some such fiction as the original contract or the general will is necessary to explain how apparently non-voluntary obligations are " really " voluntary ones ; but why grant it ?

Bambrough's article on *Plato's Political Analogies* criticises Plato's attempt to support his anti-democratic views by the use of analogies between established crafts or skills, such as shoemaking and navigation, and

a supposed craft or skill which enables people to pronounce authoritatively on questions of ultimate value. The parable of the ship in *Republic* 488a-489a, to take one example, does not provide us with a valid argument for the conclusion that states should be governed by experts, because it fails to appreciate the fact that navigators or ships' captains are experts only in steering their ships to a given destination, and that this destination is given them by the owner or the passengers of the ship. Correspondingly, the statesman does indeed require skill ; but his skill is expressed in fulfilling the needs and wishes of the citizens. For the statesman to try to lay down the ultimate aims of the state is as improper an excess of duties as for the navigator to tell the owner or the passengers what the ship's destination is to be.

There is some point in this criticism, but not as much as Bambrough supposes. For (1) Plato might well reply that all are agreed on the political destination, that everyone wishes to achieve the good (his own as an individual and that of the state), but that expert knowledge is required in order to know how this is to be done (to know first where ' the good ' lies on the map of ideas, and secondly by what route to reach it) ; and (2) in any case, Plato's analogies are intended, not as formally valid arguments, but as more or less rational means of persuading people to accept his opinions ; hence to show that they are not formally valid does nothing to show that the views they are intended to support are false.

The main theme of Gallie's most interesting paper on *Liberal Morality and Socialist Morality* belongs to moral rather than political philosophy, and is concerned with the question ' One morality or many ? ' He begins with the obvious fact that at different times and in different places different systems of moral beliefs have prevailed, and that even within a single community there have been disagreements and conflicts over moral questions. The two most important philosophical interpretations of this state of affairs are called by Gallie the " monarchic " and the " polyarchic " views. According to the former, in every moral situation there is only one correct decision or action, every conflict of opinion necessarily involving some moral error or failure : according to the latter, there are an indefinite number of sets of valid moral standards, " embodied in different moralities whose cardinal principles are not mutually corrigible " (p. 118). The rest of Gallie's paper —and this is where politics comes in—consists in an illustration of the problem by a discussion of the more specific question, " Do we, in this country today, subscribe to two distinct moralities, which might reasonably be labelled Liberal and Socialist ? " (p. 120). The evidence that suggests an affirmative answer consists in the existence of differing attitudes towards such concepts as justice, liberty and good government. Very briefly, liberal morality lays stress on commutative justice, on the notion of personal merit, on freedom of choice and contract, and on government as mainly negative and preventive in function : socialist morality stresses the importance of

distributive justice, rejects the notion of personal merit, and stresses freedom to be, rather than freedom to get, and the positive function of government in actually working towards an efficient and morally satisfactory economic organisation of society.

How is the claim that these facts entail the existence of two distinct moralities to be verified? Gallie suggests that the hypothesis could be tested by examining our own serious discussions of current moral issues, especially those with a political bearing (for example, the "closed shop" issue, and the rights and duties of parents in the education of their children), in order to see whether they do in fact reflect the kind of opposition between the liberal and socialist moral principles previously referred to. His own inclinations seem to favour the polyarchic view, although his main purpose is to pose the problem, and to make some suggestions as to the best procedure for dealing with it, not to give his own solution of it. Indeed, before the problem can be solved in this empirical way, I suspect that it will have to be more precisely formulated; but this article provides a sound foundation on which to build.

Glanville Williams, in *The Controversy concerning the word 'Law'*, argues that a great deal of time and energy has been wasted by writers on jurisprudence in discussing the meaning of the word 'law'; the question 'What is law?' is, he thinks, an unreal one, which appears to be difficult, not to say insoluble, because it is verbal. Austin and others have argued that x is, and y is not, the "proper" meaning of the word 'law', or its correct definition: Williams maintains that such talk is absurd, because anyone is entitled to use and define words as he pleases. Much of his paper consists in rather heavy-handed reiterations of this point as applied to other jurists besides Austin.

As a recommendation to lawyers not to write so much bad metaphysics, the article may have some value; but, philosophically speaking, it is much too simple. When lawyers argue about the correct answer to the question 'Is international law really law?' we may agree with Williams that this is a silly question, in the sense that it is formulated in a misleading and mystifying way, and is likely to lead to all sorts of theoretical difficulties. What he seems at times to forget, however, is that the rival arguments have some point, even if they are expressed within an inadequate conceptual framework. Questions of terminology are not always "mere" questions of terminology; and behind the apparently verbal or terminological questions about the meaning of the word 'law', there are some very real questions and issues. The "proper meaning" language is objectionable, because it obscures the real issues; and it should not be attacked in such a way that they remain obscured.

Laslett's *The Face to Face Society* is an essay in political psychology. His main argument is that much political thinking has erred through failing to distinguish two radically different types of society. The first type, which

he calls " the face to face society ", is exemplified by the family. The two main features of this type are (1) that everyone in it knows everyone else and is never called upon to co-operate in any other way than by being present at what is going on, and (2) that its difficulties and problems are resolved, if at all, by people meeting and talking—its methods are conversational. Great Britain, on the other hand, is an example of what Laslett calls a " territorial society ". It is governed by a number of face to face societies (e.g. the Cabinet and the Houses of Parliament) ; but it is not itself another such society. Any nation state, if only because of its size, must arrange to be represented in this way ; but the relationship between the governing face to face societies and the national society cannot itself be explained solely in terms of the psychology of the face to face society. " It is one of the attributes of our humanity, then, that we can co-operate in groupings which are not face to face societies, and at first sight it would seem extraordinary that any theory of human politics which overlooked this truism could have been accepted as complete or could have appeared at all workable " (p. 162). Laslett's explanation of this error is that our political thinking has been too much influenced by the Greeks, and especially by Aristotle, whose work rested always on the presupposition that the state was a small, face to face society.

Historically speaking, there is some exaggeration here. The ecclesia at Athens, for instance, did not always conduct its business conversationally nor arrive at its decisions by a mixture of instinct and ratiocination—rhetorical appeals to the emotions were notoriously common and, as Queen Victoria pointed out, the psychology of a public meeting is different from that of a conversation or a committee. At one point (p. 175), moreover, Laslett appears to forget that Aristotle was not an Athenian, and this weakens the force of at least one of his arguments. But the essay remains of great interest and value, both for the understanding of Aristotle and more generally for the psychology of politics. It is undoubtedly true—though it is often obscured by the utterances of politicians—that statements about the beliefs or wishes of " the people " are of a different kind, because verified, if at all, in a different way, from statements about the beliefs or wishes of cabinets, committees or houses of parliament.

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BOOK REVIEWS

The Development of Plato's Ethics. By JOHN GOULD. (Cambridge : Cambridge University Press. 1955. Pp. xiii + 240. Price 25s).

The main theme of Mr. Gould's book is the way in which Plato developed the ethical views which he inherited from Socrates. For Socrates morality was a matter of intense personal conviction evincing itself in a man's day-to-day actions. Virtue for him was personal and particular, the product of individual endeavour. Yet such virtue, to be achievable, did depend on social support, on a society " capable of buoying up its members by the density of its moral tradition ". In the years following Socrates' death the Athenian society and civilization he had known collapsed, and with it the social support for individual virtue. Plato thus came to believe that it was only through a rebuilt social structure that all but the most exceptional of men could live a moral life. He thus moved away from the individual personal morality of Socrates and " socialised " ethics. Mr. Gould illustrates the gap between Socrates and Plato in Part II of his book (" The Ethical Society ") by setting Plato's final views in the *Laws* over against the earlier Socratic position, and then, in Part III (" The Growth of a Reality Principle "), traces in detail through the *Meno*, *Republic*, *Timaeus*, *Politicus* and *Philebus* how Plato came to recognize the limitations of human nature and thus to adopt a more realistic approach to ethical problems, which involved the abandonment of Socrates' individualistic idealism in favour of social ethics and the assigning of an important place to the second best in moral action. The *Republic* represents a sort of half-way house : " In the *Republic*, society, though as setting and as illustration it plays an altogether greater part than in the early dialogues, has not yet usurped the position of the individual as the entity which is striving towards *arete* ; in the *Laws* this usurpation is already accomplished " (p. 185).

This is the main theme, but there are a number of minor themes closely connected with and supporting the main argument—for example, the Socratic view of *episteme*, the ' arts ' analogy in the early dialogues, the emergence of ' right opinion ' in the *Meno* as something of value. Some of the most interesting things in the book occur in Part I (" The Personal Ideal ") where the earlier ' Socratic ' dialogues are discussed. For instance, Mr. Gould seeks to show that the traditional interpretation of Socrates' equation of virtue with knowledge is a misunderstanding, arguing that we have to understand ' knowledge ' in the equation as more like ' knowing how ' than ' knowing that '. Even if Mr. Gould's own interpretation leaves a number of loose ends, his application of the knowing how/knowing that distinction in the early dialogues merits attention ; and he himself professes modesty about his use of it—" it has been used as . . . a heuristic method. . . . We can hardly be surprised if it does not fit exactly " (p. 30). Again, he has some interesting remarks on the apparent redefinition of ethical terms in the early dialogues—e.g. p. 28, " The proposition ' virtue is knowledge ' is a disguised recommendation, ' a persuasive definition ' (to adopt a phrase of Professor Stevenson) ; like the other ethical propositions of Plato's dialogues, it is an attempted redefinition of ethical terminology, necessarily analytic ". Such remarks, if pursued further, might have proved illuminating. Indeed, as a general point, perhaps if Mr. Gould had limited his field more and pressed his analyses and arguments further within this smaller field, more that was philosophically exciting would have emerged ; but as it is, this is a scholarly book and one that is useful both for its careful analyses, particularly of the early dialogues, and for the suggestions it throws out by the way. It is admirably indexed and produced.

R. C. CROSS

Justus Lipsius. The Philosophy of Renaissance Stoicism. By JASON LEWIS SAUNDERS. (New York : The Liberal Arts Press. 1955. Pp. xviii + 228. Price $4.50).

Spinoza, whose system in parts recalls Stoicism, possessed, as a " prominent fixture " in his library, the works of the Fleming Joest Lips (1547-1606), among them treatises that were for Spinoza's times a source-book such as we have in von Arnim's *Stoicorum*

veterum fragmenta. This fact alone, important for the history of ideas, goes far to justify Saunders's book, but we are told it casually (p. 220), without a reference. The index omits Spinoza.

Saunders's original and most useful contribution is his critical exposition (pp. 67-217) of Lipsius's mature statements of Stoic ethics, in *Manuductionis ad Stoicam philosophiam libri iii*, and of Stoic physical theory, in *Physiologiae Stoicorum libri iii*, both of 1604. These works went into dozens of editions, with translations in all major languages, Lipsius being a " best-seller " among scholars. He had held Chairs at Jena, as a Lutheran, Leiden, as a Calvinist, and Louvain, as a Roman Catholic ; made hundreds of sound emendations in Tacitus and Seneca ; showed an admirable grasp of Roman antiquities ; and was a leading advocate of anti-Ciceronianism in style. Lipsius was, however, poor at Greek, as also is Saunders, who thinks *light* is *φῶτα* (p. 128) and *εὐδοκία* means " love of goodness " (p. 160, n.8). Lipsius used Sextus Empiricus only in a Latin version, neglected Marcus Aurelius, and cited Plotinus but once ; he did not weigh well the relative authority of his sources ; and mingled Neo-Platonic and Gnostic elements in his version of Stoicism, seeking to reconcile it with Christianity.

Saunders's Latinity is unsure, his English sometimes queer, and his sense of history defective. For instance, he insists (p. 15, n. 15, p. 66) that Montaigne was inspired by the style and content of Lipsius's early Stoic treatise *De constantia*. This came out in 1584, after Montaigne's first set of *Essais* (1571-80), in which it is a commonplace that he was more Stoic than in his later set (1585-8). His relative Epicureanism develops after the *De constantia*, doubtless not because of it. Seneca, not Lipsius, was surely Montaigne's source, already familiar to him from his time at the Collège de Guyenne under our own George Buchanan. Saunders's chapter on Lipsius's life and works is well-balanced ; his slight sketch of Lipsius's influence could well be developed in a later volume, based on wider reading.

D. C. C. YOUNG

Spinoza's Theory of Knowledge. By G. H. R. PARKINSON. (Oxford : Clarendon Press. 1954. Pp. x + 197. Price 21s).

Spinoza's theory of knowledge is a dark subject, and attempts to throw light on it deserve sympathetic consideration. Mr. Parkinson's essay has special claims to our respect : it is based on a wide and scholarly knowledge of Spinoza's text, and it attempts to discover what he meant by an unprejudiced examination of what he said. This is no small merit, for interpreters of difficult texts are notoriously prone to read their own preconceived notions into the author's words, and earlier commentators on Spinoza have not been immune from this temptation. That Mr. Parkinson's interpretations are sometimes hesitant and tentative is only to be expected, for there are passages in the *Tractatus de Intellectus Emendatione* and Part II of the *Ethics* where it is hardly possible to be dogmatic about Spinoza's meaning.

Perhaps the main theme of the book is that for Spinoza " knowledge constitutes a deductive system ". Now this, I think, is true : but I also think that Spinoza sometimes uses the word *deducere* in a rather peculiar way. In *DIE* par. 68 he says that *ideae rerum, quae clare et distincte concipiuntur, sunt vel simplicissimae vel compositae ex ideis simplicissimis, id est, a simplicissimis ideis deductae*. Again, in *E* iii, 52 Sch. he remarks : *et ad hunc modum concipere etiam possumus odium, spem, securitatem et alios affectus admirationi junctos ; atque adeo plures affectus deducere poterimus quam qui receptis vocabulis indicari solent*. These passages show that Spinoza conceives an idea to be " deduced " from others when it is formed by their combination, and " deductions " in this sense are common in the *Ethics*. For example, Spinoza combines the idea of sorrow with the idea of the idea of an external cause and gets the idea of hatred (*E* iii, App. 7) ; he then combines the idea of hatred with the idea of those who have injured others and gets the idea of indignation (*E* iii, App. 20). Similarly in *Leviathan* Hobbes combines the ideas of person, multitude, covenant, author and peace to get the idea of commonwealth. A deductive system as these thinkers conceived it involves an element of construction or " composition " which Mr. Parkinson fails to notice. This failure may help to account for his difficulty in understanding why Spinoza rejects the view that the mind is passive in knowledge (p. 93).

It seems to me that in interpreting Spinoza we must distinguish between the peculiar sense in which ideas are " deduced " from ideas and the ordinary sense in which propositions are deduced from propositions. To say that idea c is " deduced " from ideas a and b is to say that c is defined in terms of a and b : to say that proposition z is deduced from propositions x and y is to say that z follows from x and y as conclusion from premises. The " deduction " of ideas provides a basis for the deduction of propositions : it

is because indignation is defined in terms of hatred, it is because indignation " involves " hatred, that, knowing hatred to be evil, Spinoza can deduce in the ordinary sense that indignation is evil (*E* iv, 45, Cor. 1). But it is in his peculiar sense, and not in the ordinary sense, that he " deduces " that indignation is hatred towards those who have injured others. I suspect that this definition is reached by *scientia intuitiva*, so Mr. Parkinson may be right in saying that *scientia intuitiva* is deductive knowledge. But not in the ordinary sense.

I conclude, then, that it is correct but misleading to call Spinoza's system of knowledge deductive. It is misleading because it is apt to encourage the view that from his premises, and particularly from his definition of God, Spinoza thought that he could deduce (in the ordinary sense) both the essences and the existences of finite things. Mr. Parkinson is inclined to accept this view. Spinoza, he tells us on p. 73, said that " all things follow from God ", but (p. 89) " he failed to note that their dependence on God was not a logical dependence in the sense that they could be deduced from the definition of God ". I suggest that Spinoza did not fail to note this. When he says that all things follow from God he is simply saying that all things are modes of God and are ultimately defined in terms of God (*E* ii, 45) : he is not claiming that the essence or the existence of any finite thing can be deduced (in the ordinary sense) from his definition of God. For in *E* ii, 37 he explicitly says that " what is common to everything, and is equally in the part and in the whole, forms the essence of no individual thing ", and in *Ep.* x he implies that we need experience to discover the existence of modes. On p. 158 Mr. Parkinson tries to evade this implication, but on the following page he appears to acknowledge that in Spinoza's view spatio-temporal existents cannot be deduced from the definition of God.

This is not the only point on which Mr. Parkinson's views may be reasonably challenged. He complains on pp. 21 and ff. that the method sketched in the *DIE* will not enable scientists to make discoveries : but surely the primary object of that method is to clarify the nature of understanding. It is with self-knowledge that Spinoza is mainly concerned. On pp. 112-3 he says that " when Spinoza calls the body the ' object ' of the human mind, he not only means that the mind knows the body, but also that the mind is correlated with, or united to, the body ". This is a common view, but it is difficult to reconcile with Spinoza's denial that the human mind knows the human body itself and his assertion that it knows only the affections of that body (*E* ii, 19). I suggest that we must distinguish between the idea which the human mind *is* and the ideas which the human mind *has*. To *be* the idea of x is not to know x : to know x is to *have* the idea of x. The mind which *has* the idea of (i.e. knows) the human body is a mind superior to the human mind.

I shall conclude with some minor points. In most cases Mr. Parkinson has made his own translations of the passages he cites from Spinoza's works, and in most cases his renderings are clear and accurate. But I am not sure that *ne mens inutilibus defatigetur* (*DIE* par. 37) means " that the mind shall not be fatigued by *laws* which are useless " (p. 11 ; cf. pp. 15 and 20), or that *data* in the expression *idea data* (*DIE* par. 38 and elsewhere) means " given " (p. 18), or that *vaga* in the expression *experientia vaga* (*E* ii, 40, Sch. 2) means " vague " (pp. 138 and 147). Again, *Principia Philosophiae Cartesianae* (*passim*) is not the correct title of Spinoza's work, but a retranslation into Latin of a mistranslation of the correct title. Finally, the book has been produced with the care and accuracy characteristic of the Clarendon Press, and I have noticed only one misprint : on p. 158 " the definition of Modes " should read " the existence of Modes ".

A. G. WERNHAM

The Leibniz-Clarke Correspondence. Edited with Introduction and Notes by H. G. ALEXANDER. (Manchester : Manchester University Press. 1956. Pp. lvi + 200. Price 16s).

Newton's *Philosophiae Naturalis Principia Mathematica* appeared first in 1687. For many of his contemporaries his system had two grave defects : it gave the impression that gravity was (in Leibniz's phrase) an " occult quality of matter ", and it contained no reference to God. There was already a famous precedent for the latter defect in Galileo's treatment of the laws of motion : but Galileo had nearly come to a sticky end. In 1713 a new edition of the *Principia* appeared in which the editor, Roger Cotes, flew to the aid of his teacher with more eloquence than discretion, in that his remarks on gravity appeared to be seriously at variance with the clarification (" *Hypotheses non fingo* ") provided in the text by Newton. In the same scholium in which this clarification appeared Newton—" since to discourse on which from the appearances

of things does certainly belong to natural philosophy "—hypothesized a relationship between God and the World which raised more questions than it answered. These questions, and one depending upon the supposed instability of the planetary orbits, were raised in a provocative letter from Leibniz to Caroline, Princess of Wales, who enlisted Dr. Samuel Clarke, Rector of St. James's, Westminster, as respondent on behalf of Newton, at whose door Leibniz laid the " decay of natural religion in England ". The correspondence which ensued—the letters of Leibniz being accurately translated from French into English—was published by Clarke in 1717 ; it appeared again in the *Collected Works* of Clarke published in 1738 ; since when there has been no complete edition in English. It is a tribute to the vitality and catholic spirit of Manchester that this shocking gap in the shelves of our philosophic heritage has at last been filled, and that in a manner which could hardly have been bettered.

The text, preceded by a bibliography of editions of the *Correspondence*, is that of Clarke's first edition (including his appendix of citations from Leibniz's works) which it follows exactly, except for the usual changes in orthography and lettering and a simplification of Clarke's detailed system of cross-reference. To enable the modern reader to enter fully into the spirit of the controversy the Editor has provided an illuminating introduction, in which both its origin and relevance to the problems of the philosophy of science, in particular the theory of relativity, are alike displayed. The value of this edition is greatly enhanced by the inclusion of relevant sections from Newton's *Principia* and *Opticks*, and of a number of letters which passed between Leibniz, the Princess Caroline, and other savants, bearing on the *Correspondence*.

Though the controversy is cast in a theological mould and is conducted to a large extent in theological terms, it need only be kept in mind that different ages apply different " mythological " schemata to the same abstractions to realise that the problems at issue here—the ontology of the world, the status of space and time, the " justification " of changing experience, the primacy of atom or plenum, etc.—are all live issues. " And therefore to pretend . . . that the mind prefers sometimes weak motives to strong ones, and even that it prefers that which is indifferent before motives ; this, I say, is to divide the mind from the motives, as if they were without the mind as the weight is distinct from the balance . . .". Surely Leibniz had a pre-view of *The Concept of Mind* ?

Although the Editor's *Introduction* admirably fulfils the purpose for which it is intended, anyone unfamiliar with the history of science might be misled in one or two places. There seems for instance no particular point in replacing the well-known term *vis-viva* by the almost meaningless " moving force " (p. xxi, etc.) : the relationship of this concept to the nineteenth century one of kinetic energy should have been dealt with here rather than later (p. xxxi). Here, though Mach's celebrated attempt at forecasting an alternative line of development of theoretical mechanics is well taken, it is implied that Galileo's " failure " to relate velocity to distance was due to the limitations of experimental technique : from the actual passage in the *Two New Sciences* one can only infer that the limitation lay in Galileo's logic as applied to his " thought-experiment ". Again in the exposition of the Restricted Theory of Relativity it is not made clear that the " postulates " of invariance of the laws of nature and constant velocity of light are so only within the hypothetico-deductive system ; they are, of course, well attested empirical generalisations quite different from the " postulates " of, for instance, the kinetic theory, where (p. xvii) the postulational character of the equivalence between temperature and mean molecular kinetic energy is not mentioned.

Mr. Alexander's decision in regard to the Leibniz-Clarke controversy is to call it a draw. This is, of course, a matter of opinion. But his reason seems to me far from decisive. " To some writers it has seemed that when in the Correspondence Leibniz criticizes the concepts of absolute space and time he is anticipating Einstein. On the other hand, Leibniz's fundamental postulate is that space and time are unreal. No one therefore would have rejected more strongly than he a theory which ascribes properties to space-time ". But *space-time* is not, like " space ", an empty shell " containing " real events ; it is rather the metrical order whose properties reflect, in some sense " are ", the inter-relations of the events. To one who saw the cosmos mirrored in every constituent monad could such a theory have been repugnant ? In his consciousness of the metaphysical implications of natural philosophy Leibniz surpassed Newton ; and in this he anticipated not Einstein but Whitehead.

WILLIAM P. D. WIGHTMAN

Kleinere Schriften I. By NICOLAI HARTMANN. (Berlin : Walter de Gruyter 1955. Pp. 318. Price DM 26).

This is the first of three volumes, containing Nicolai Hartmann's essays, collected from various now largely inaccessible sources. With the two more volumes to come,

the publishers will have completed the admirable venture of bringing out the whole of Hartmann's writings. Only two of the nine essays in the present collection have not been previously published, both dating from 1949 : *Die Erkenntnis im Lichte der Ontologie*, and *Vom Wesen sittlicher Forderungen*. Especially noteworthy among the earlier essays is *Neue Ontologie in Deutschland*, written in 1940 and published in 1941 in Istanbul. This is not, as the title misleadingly suggests, a survery of contemporary German ontological thought, but a summary of Hartmann's own conception of the ontological structure. Equally useful for the reader who wants Hartmann's views on categorial analysis in compressed form is *Ziele und Wege der Kategorialanalyse* (1947).

The longest contribution to this volume, and also, as one of the last comprehensive statements of the philosopher, the most interesting one, is *Die Eekenntnis im Lichte der Ontologie*. It contains no new thesis or new material, nothing which had not been expounded at greater length in one or other of Hartmann's major works, mainly in *Aufbau der realen Welt* and *Grundzüge einer Metaphysik der Erkenntnis*. But as a lucid summary of the author's position concerning understanding by means of categories, it is admirable. The essay is a much expanded version of a lecture delivered to the Munich Kant Society, and continues Hartmann's life-long critical evaluation of Kant. The specifically Kantian problem, however, provides no more than a framework for his own explorations of the ways in which human thought can be said to grasp " what really is ". Kant's radical thesis of the complete identity of categories of thinking and categories of being is modified by Hartmann into one of only partial identity. The " ontological perspective " reveals the *intentio obliqua* of epistemological thinking which must therefore be considered as a late philosophical achievement and never as *philosophia prima*. This title is to be reserved, according to Hartmann, for the science of being, i.e. ontology, whose procedure is no random groping, but a discovery and application of categories. The formidable display of categorial analyses, of tables of categories and even graphs, of closely reasoned arguments in a highly technical terminology can easily give the impression of extreme rigidity in Hartmann's thinking. But it is a rigidity of procedure and method rather than of essential content. This is evident from the chapters on " categorial change " in the essay under review, displaying an open-minded awareness of conceptual process. Right through the essay runs a bipolar strain of controversy : against that part of the Neo-Kantian school represented by Rickert and Natorp (but not Cohen), and against Husserl's method, in so far as it is restricted to descriptive registration of the given. In this twofold criticism the essay reflects a general attitude of Hartmann towards the two philosophical schools to whom he owes most, and whom he has most outgrown : Marburg and the school of Phenomenology. Without the influence of the Neo-Kantian obsession with the spontaneity and creativity of thought, Hartmann would hardly have formulated the ontological primacy of real being over cognizing human minds ; and without Husserl's battle-cry " back to the phenomena ", he might not have developed his impeccable method of sober analysis, whilst at the same time recognizing the futility of practising it as an end in itself.

In *Systematische Selbstdarstellung*, the first essay in the volume under review, Hartmann has given a detailed summary of the tendency, method, purpose and scope of his own complete philosophical work. Although of a comparatively early date (first published 1933), only some passages outline work which was still to be done, e.g. the programme for an aesthetics, finally written more than ten years later. It may come as a surprise to find in this essay Hartmann's emphatic denial ever to have built " a system ". In an age determined by the philosophical aperçu and, at best, the longish essay, Hartmann's systematic exploration of ethics, epistemology, axiology, philosophy of science, aesthetics, and ontology looks so much like a gigantic system that his own distinction between *Systemdenken* (which he denounces) and systematic *Problemdenken* (which he proclaims) appears almost trivial. Effective thinking in philosophy, he maintains, has never been that of constructing systems, but always that of grasping problems, their formulation remaining perennially " open ". It was Hartmann's conviction that his thought belonged to the latter kind.

EVA SCHAPER

NOTE

ANNUAL CONFERENCE ON PHILOSOPHY OF SCIENCE

The second annual conference of the Philosophy of Science Group will be held at Wortley Hall, University of Nottingham, from Friday to Sunday, 20-22 September 1957.